

## The adversarial process of defining Art

– by Etienne Gatti –

*« The sight of immediate reality has become an orchid  
in the land of technology. »*

– Walter Benjamin –

How can we make a computer capable of creativity? How can we give it the capacity to imagine and create something new—as long as artificial intelligence, no matter how developed, is still based on our suppositions of how our own intelligence is built, and therefore condemned to the limits of our own imagination? Generative adversarial networks (GAN) may provide some insight into these questions. GAN are artificial neural networks that are capable of generating new images. More precisely, they are composed of two networks: a generator, which generates from noise (a series of coordinates in N-dimensional space) images that can fool the discriminator, a second network that compares the generated image to a database of existing images and then rates its similarity on a scale of 0 to 1. By repeating this process of generation and comparison, the generator gradually learns to hone its “creativity”. It diverges, then converges. Thus, GAN borrow from our very human creative process, only with a clear limitation: if the convergence phase is prolonged, the process becomes a reductive funnel toward a straightforward copy. It’s as if these networks were being trained the same way that art was taught by mimesis in classic schools, but without the capacity to rise above it.

Even if this is no longer the norm in art education, the method persists through the postmodern idea of reference and creation by recombining previously explored forms. Although Ronan Barrot dislikes this notion of “art history as a rack of pots and pans in which to cook your grub”, like all artists, he draws upon his own body of images and references that have influenced him. Except that in his case, these images approach him more than he reaches out to them. As if suffering from a rare form of apophenia limited to his own paintings, Ronan sees meaning in a particular rhythm or color. As links form to his iconographic subconscious, references emerge, and hybrid paintings based on previous works appear. He either integrates or refutes what is presented to him by orienting his multicolored chaos in one direction rather than another, until a pattern emerges. This process is particularly salient in the Skulls series. The images emerge from each clean palette, their raw matter imposed by the other paintings in progress. In the initial chaos of colors, Ronan’s gaze searches not to meet another gaze, but only to identify eye-sockets, just enough to distinguish a human head.

The first images produced by a GAN developed by Robbie Barrat—artist, researcher in artificial intelligence engaged in a dialogue with Ronan Barrot supported by Avant Galerie—mean nothing to us. Here too, a chaos of colors is confronted with a corpus—the network’s database of 500 skull paintings by Ronan. Then, from this tentative exploration of images, emerge forms that are increasingly similar to Ronan’s Skulls. But the more the machine reproduces existing forms, the less it explores, the less it is creative. So Robbie must intervene in order to interrupt the process and extract from the constant flow of generated images those that can stand on their own. The network does not produce a series of unique images. Nor does it produce a complete series. It produces a continuum, a flow of iterations, each one unique, but whose finality lies not in its uniqueness but in the iteration itself. An algorithm has no aura, no authority, no capacity for transcendence. It does not produce

ideas or make Art. Only human desire can meet these expectations—the desire to choose an original hue, a pleasing harmony of colors, an intriguing form. Human choice is everywhere.

Each concession to one of these skulls to achieve a material existence is the creative act of an avatar of a more global artwork. Choice sculpts these pieces. Each one exists both independently and as a product of the network and the series of choices that engendered it; in short, the generated skull images are both artworks and keys to unlock the artwork. The other key, to the door thus revealed, unlocks the contents of the database. Altering or modifying the dataset is the only way to communicate directly with the machine. For Epoch 1 (the first generation of skulls generated by Robbie's GAN), the database consisted of a selection of Ronan's Skulls presented exclusively from the perspective of the human gaze. The machine was thus restricted to considering these images from a very human point of view. Conversely, for Epoch 2 (the second generation, in square format), the dataset included skull images that were presented from all angles, even mirrored. By liberating the machine from the human gaze and our own biases in perception, we extend its capacity for exploration, its capacity to surprise us, its capacity to be creative. This time, the network truly appropriates the initial corpus, copying it, ruminating it, reinterpreting it, reformatting it, recreating it, and by doing so, becomes more fluid. It is no longer restricted by a predefined size format when the image is displayed full-screen. Each image loses in material aura what it gains in fluidity. The artwork itself gains the illusion of infinity, of which we catch a glimpse in the exponential proliferation of skulls. Each one is unique, but we lack the capacity to realize it. And yet, they are not so numerous—about 8,000 in total, of which 101 have a material existence. Nonetheless, our head spins from the nauseating vertigo of this infinite motif. While it is not easy to apprehend the concept of infinity, which can be neither represented nor quantified, it is amusing that we can access it through such a small number. Even more amusingly, we access it through the motif of the human skull, allegory of our own finitude.

There are many fruitful parallels between the creative processes of Robbie and Ronan—the flow of “by-product” skulls in a work, iteration rather than series, relationship to a corpus—but it's the confrontation between the “interior necessity” to paint and the machine that pushes new boundaries. Will artworks that rise above intentionality and interiority be judged with the same degree of authenticity? The answer is unclear. Like Walter Benjamin in his *The Work of Art in the Age of Mechanical Reproduction*, we waver between an optimistic diagnosis in our desire to witness the future mutations of Art, and pure nostalgia for this lost orchid: the material continuity of the artwork within the artist's body of work.

*Caroline Vossen and Albertine Meunier, “partner” and “partner in data crime”, made possible this encounter between Ronan Barrot and Robbie Barrat. Infinite Skulls is an exceptional exhibition in more ways than one: it's the first show produced by Avant Galerie, as well as the first to result from a dialogue between artists, gallery owner and artificial intelligence—in a nutshell, the exhibition of an artwork in common.*