Arts&Leisure

The New York Times

'There is just enough of a suggestion of a face in profile on the canvas. A painting within the painting. This really is pretty terrific.'
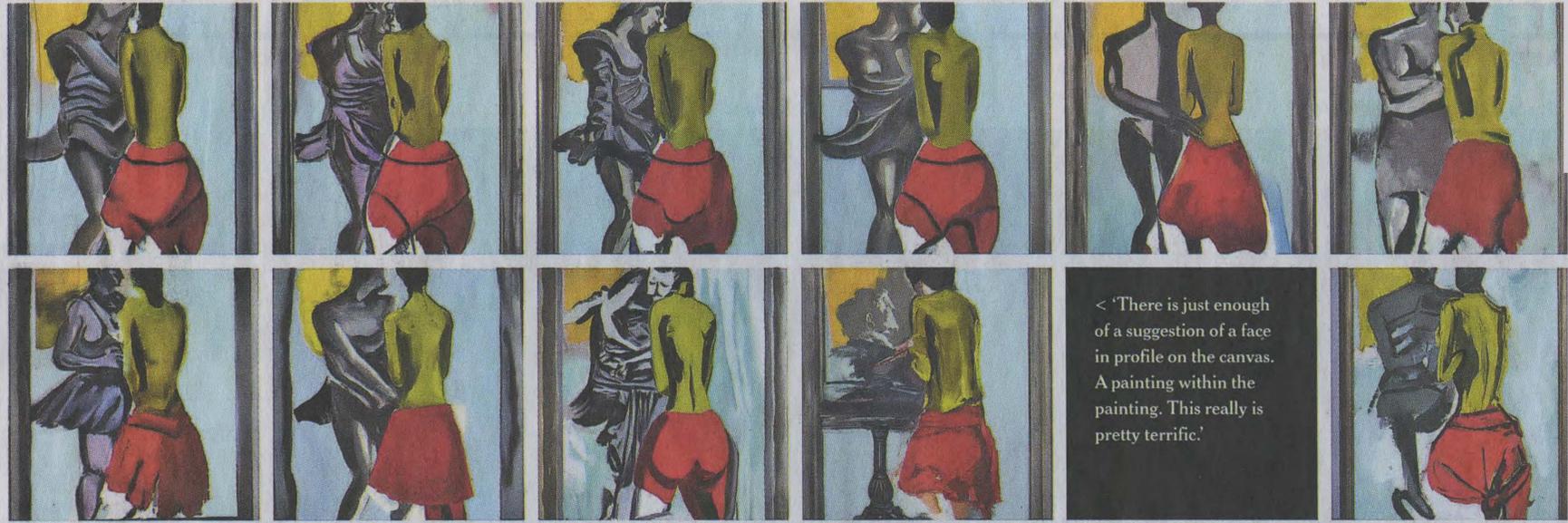
A.I. Is an Expert At Making Bad Art.

'Probably not something I would have imagined in just this way, especially not the very odd color, which I quite like. It would have taken me a long time to arrive at that.'
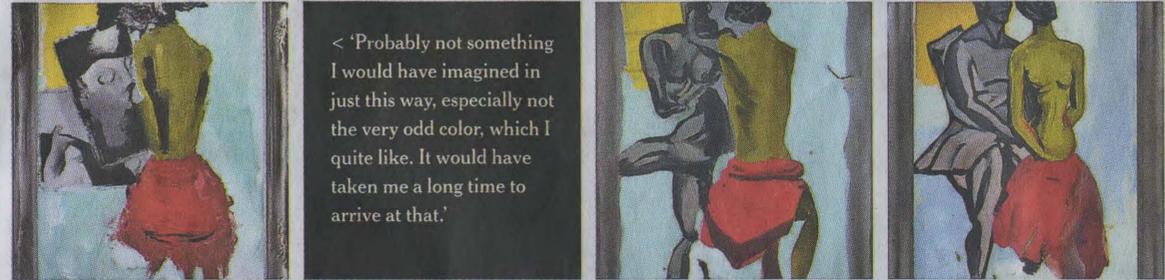
Can an Artist Teach It To Make Good Work?

'A.I. is a great tool because it allows me to see thousands of combinations — things that I would manually sift through in years are made with 5,000 versions in an hour.'

With the help of technologists, the painter David Salle has been testing an algorithm's capacity to become a sophisticated creator. And it is showing signs of progress.
BY ZACHARY SMALL | PAGE 10

IMAGES VIA GRANT DAVIS AND DAVID SA

4 THEATER
Andrew Lloyd Webber's hit musicals are being updated by some hotshot directors. BY MICHAEL PAULSON

9 TELEVISION
DogTV has an obvious target audience, but its programming is for people, too. BY AUSTIN CONSIDINE

12 BOOKS
Kerry Washington writes about family secrets and more in her new memoir. BY ELISABETH EGAN

Art

Turning an Algorithm Into an Art Student

David Salle, one of America's most thoughtful painters, hoped an A.I. program might be able to nourish creativity. It could mimic his style. But could it inspire?

By ZACHARY SMALL

Of the many young artists David Salle has mentored, none were ever as challenging as his latest student, who cannot hold a paintbrush or a conversation.

"The mountain looks too airbrushed," Salle informed the algorithm that lives inside his iPad. The landscape painting it had produced, based on hundreds of his own artworks, was typically generic, lacking in depth. But the next one succeeded, depicting a valley stream with expressionistic wisps and a sense of volume.

"The way it has rendered water looks more deliberate," Salle, 70, said. "But it's funny to call something deliberate when it has no consciousness, isn't it?"

For nearly a year, the painter — known for edgy images appropriated from art history and popular culture, as well as juxtapositions of voluptuous nudes and ham sandwiches — has attempted to defy conventional thinking about generative artificial intelligence by testing an A.I. program's capacity to become a sophisticated creator of art.

The partnership has grown through weekly meetings with two technologists, Danika Laszuk and Grant Davis, who tailored a text-to-image model to Salle's requirements, relying on descriptive prompts that generated images in the artist's style. The New York Times observed three of their work sessions, tracking the algorithm's progress over several months as it adopted more of Salle's techniques and abandoned the bland photorealism that often limits other generative programs.

"We are sending the machine to art school," Salle quipped, before expounding on the principles of light, shadow, depth and volume that good painting requires. The algorithm wouldn't need eyes to achieve greatness, but it would need to hone the robotic equivalent of intuition to spark inspiration and fool a gallerist.

And first, it would have to learn to mimic his style.

The experiment was a mutually beneficial arrangement. Laszuk runs a program called E.A.T._WORKS, for the venture capital firm Betaworks, that pairs artists and engineers on projects where her company might earn a percentage of the profits. Davis is building Wand, an A.I. platform for artists that promises to help them streamline their operations with faster imaging through text prompts and sketching. Salle was something like a guinea pig for Wand, teaching its program how to paint while developing his own series of digital images.

With permission from Ben Lerner, a friend of Salle's, the group has been feeding bits of poetry from his new book, "The
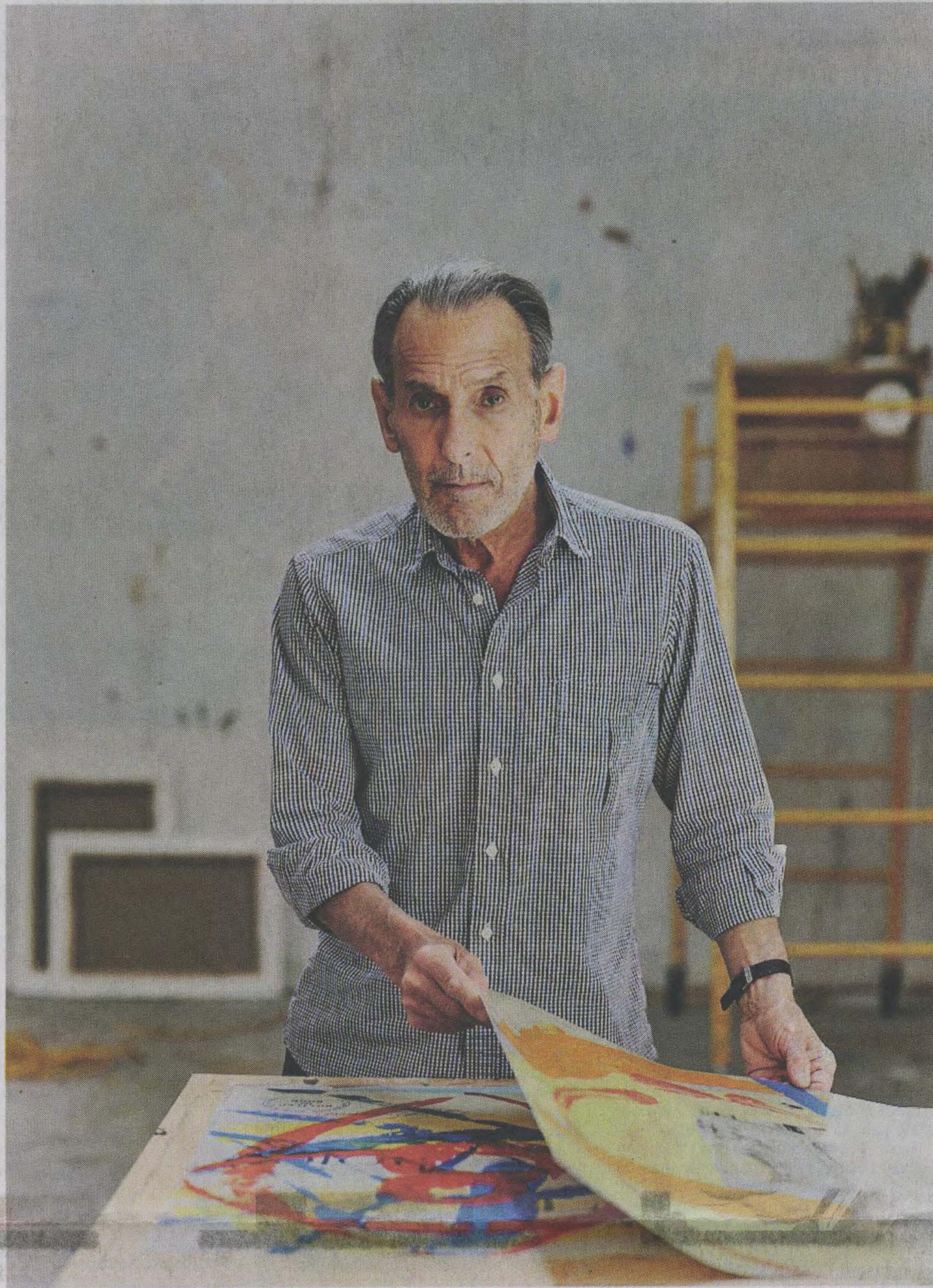
Lights," to evoke more fantastical images of cities growing within organic cells, and patterns of interlocking barbules. Prompts also have been sourced from another friend, the writer Sarah French.

"Our process starts with very imaginative prompts," Davis said. "And we generate lots of images before selecting the ones we like. Then David starts drawing on top of them. The process can repeat itself like that until he's satisfied."

Salle is one of the first traditional artists to embed on the front lines of artificial intelligence. He, in turn, was trained by the conceptualist John Baldessari at the California Institute of the Arts in the 1970s and has a style that absorbs a diverse set of influences, from the Italian painter Giorgio de Chirico to the New Yorker cartoonist Peter Arno.

The results have sometimes been described as memories that barely hold together, and as attempts to ascribe significance to the foggy afterimages of art history. He is often grouped with the appropriation artists of the 1980s, including Richard Prince and Cindy Sherman, who have questioned the primacy of authorship in contemporary culture. He has also juxtaposed photography with painting.

> ## 'It's funny to call something deliberate when it has no consciousness, isn't it?'

"Every major artist is an amalgamation or synthesis of diverse sympathies and influences," Salle wrote in his 2018 book "How to See" about making and viewing art. He recalled asking the painter Alex Katz to make a list of his own influences; Katz said the list started with Jackson Pollock and ended with "the guy who made Nefertiti."
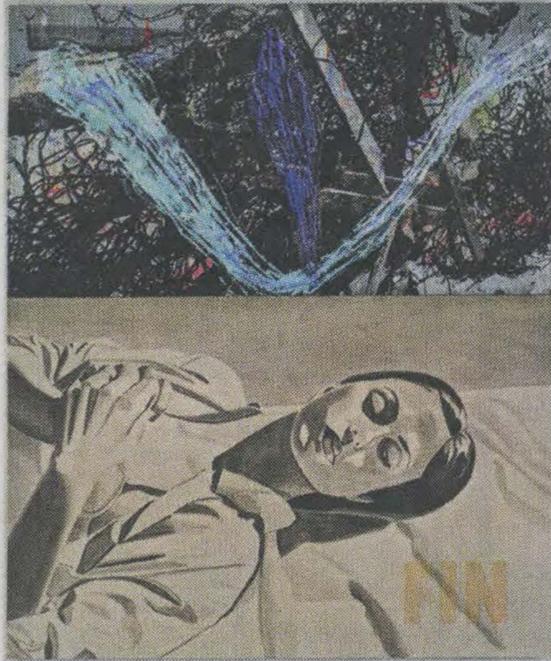
On another page of his art treatise, Salle delivered a grand theory of creativity: "*Form* is the raw material, and *style* is the forge."

Artificial intelligence has a limitless vault of forms, thanks to the billions of online images it studies through a process called diffusion, in which the algorithm learns the structure of an image — and then learns to create variations. Its knowledge is then stored in the parameters of the model, which is translated to the A.I. through a short sequence of numbers known as "latent space."

But learning artistic style requires go-

JUSTIN KANEPS FOR THE NEW YORK TIMES

David Salle, whose career has spanned nearly 50 years, in his studio in East Hampton, N.Y. Two technologists have tailored an A.I. model to his requirements, relying on descriptive prompts that generate images in his style. Salle then critiques the images.

Salle is a surrealist mixmaster. His style has changed over the years, which made capturing his essence more challenging for an algorithm. In the painting at right, four or five sources are brought together on a single canvas. Capturing that breadth requires some fine-tuning in a machine.
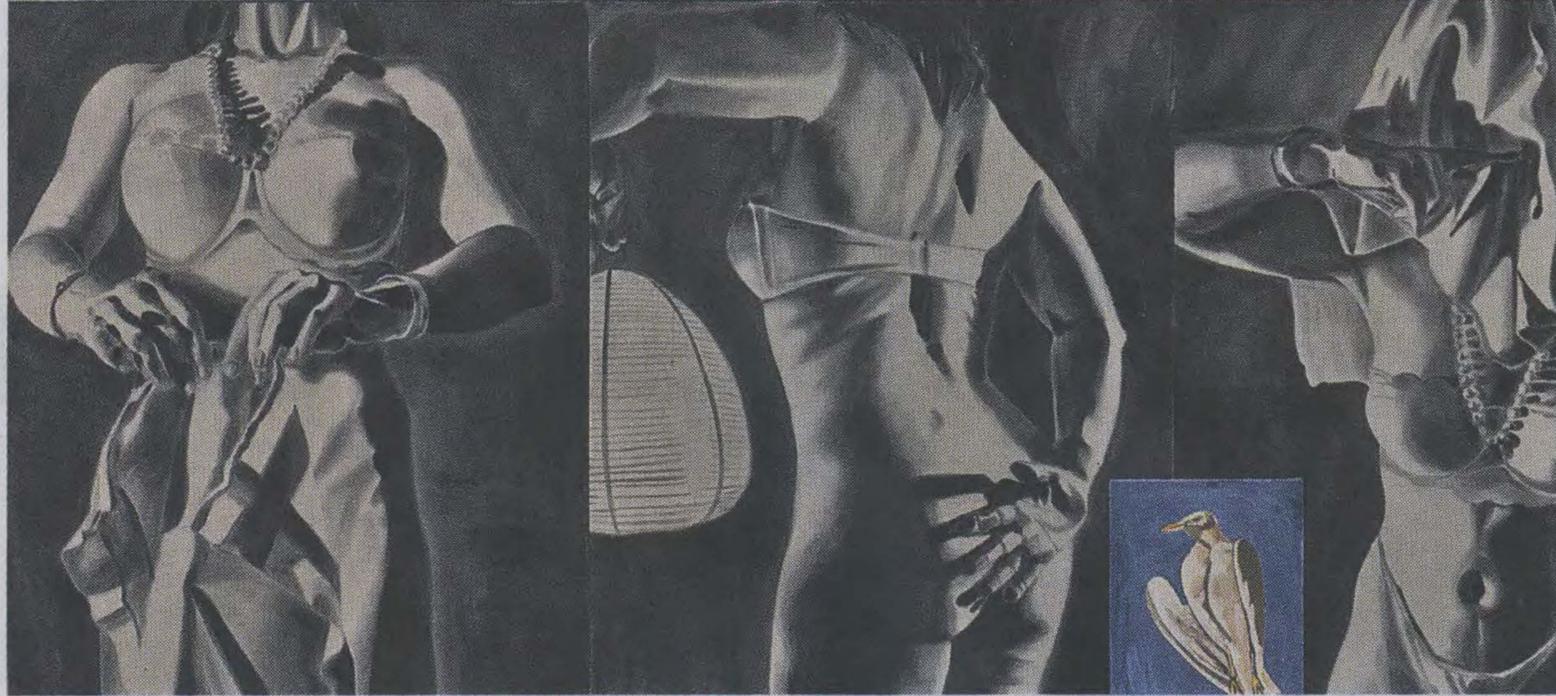
ARTWORK BY DAVID SALLE/VAGA AT ARTISTS RIGHTS SOCIETY (ARS), NY; VIA GLADSTONE GALLERY, NY

"SLEEP," 2012

"SEXTANT IN DOGTOWN," 1987

"THE OLD BARS," 2017

"CHILDHOOD," 1998

ing beyond simple pattern recognition. Experts say that increased matchmaking improves accuracy but also stymies the machine's ability to produce the unexpected. A balance must be struck.

The algorithm's "training" to become the next David Salle started with a diffusion model to develop a general understanding of visual images based on hundreds of the artist's paintings. Davis, the engineer, then introduced dozens of detailed snapshots of Salle's paintings to the program so it would learn to "think like a painter."

Some of the first experiments were underwhelming: blobby landscapes, figures drawn without brush strokes, flat abstraction. But the critiques that Salle offered did improve the machine's intelligence enough to surprise the artist.

"As a painter you only have time to create a painting, but each painting contains within it all the paintings you don't have time to make," Salle said. "A.I. is a great tool because it allows me to see thousands of combinations; things that I would manually sift through in years are made with 5,000 versions in an hour."

Salle isn't the first artist to assume the role of mad scientist, pushing against the limits of his own mortality with a machine capable of publishing a series of posthumous "new" works long after his death.

But he is also not someone to rest on his laurels. These experiments have come at a moment of great change in the artist's career, which has spanned nearly 50 years. This year he left Skarstedt Gallery, which represented him for nearly a decade, to join the dealer Barbara Gladstone. This fall, he has a solo exhibition in Seoul filled with paintings in a more graphic style from his "Tree of Life" series — influenced by Arno, the cartoonist — which Salle has described as "little dramas."

Some of those pictures hung on the walls of his studio during summer, when he met with the technologists behind his algorithm. The branches of his "Tree of Life" resembled the image of brain synapses — summoning the psychological dramas of the characters' lives onto the canvas foreground.

The algorithm has become another pathway into his own psychology. The experiment has Salle wrestling with the definition of art and the nature of authorship.

What will become of his own identity, as the algorithm continues to produce more Salle paintings than he could ever imagine? Some days, it seems like the algorithm is an assistant. Other days, it's like a child. When asked if the A.I. would replace him entirely one day, the artist shrugged. "Well," he said, "that's the future."

Art

A.I.'s Imitations Can Be Many Things, Like Absurd, Unexpected or Downright Impressive

During a single session, the David Salle algorithm generated images based on a prompt the artist himself might have used. Salle judged the images like a crit session with a student, attempting to triangulate their best qualities.

Some missed the mark by relying on clichés like "head in the clouds." **They were too literal,** resembling the covers of sci-fi or self-help books.

Even with its hiccups, the algorithm got closer to the artist's style than what you might generate from the general model of Stable Diffusion — a publicly available image generator that is popular with artists. It shows the growing divide between general and expert models of A.I. programs.

Typing "head in the clouds in the style of David Salle" into the general model elicited cursed images like this one.

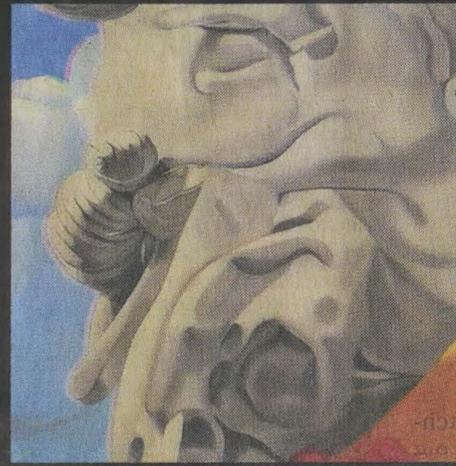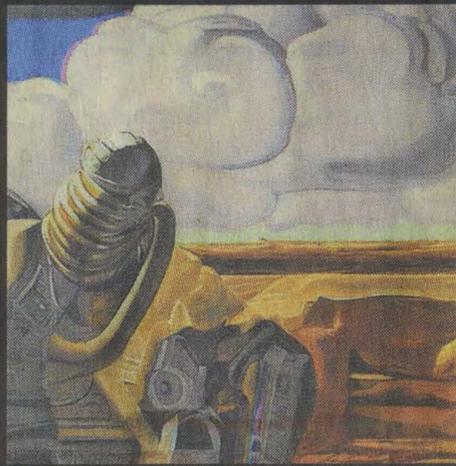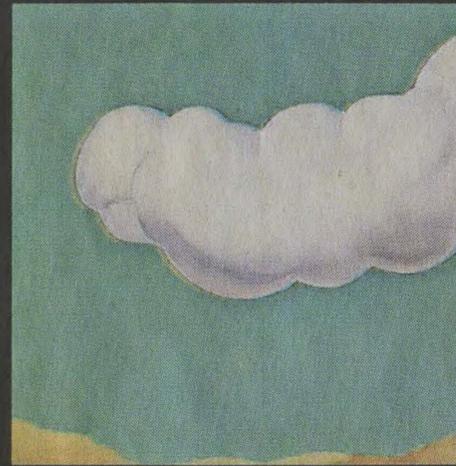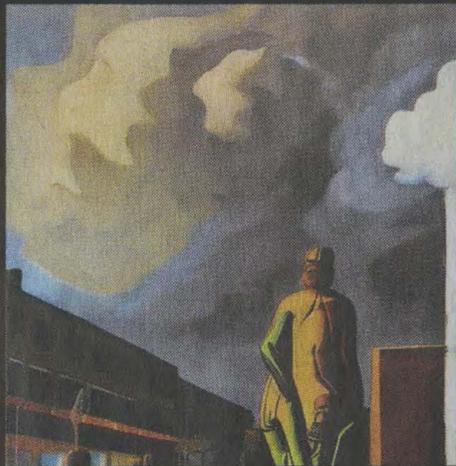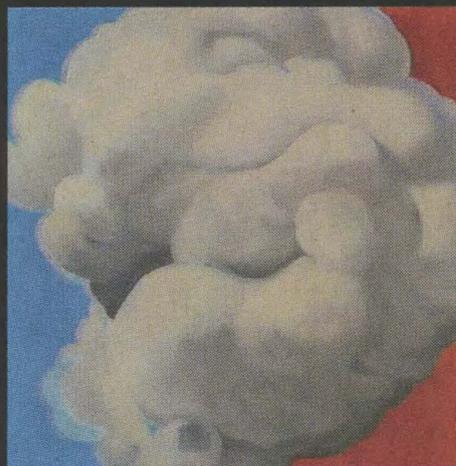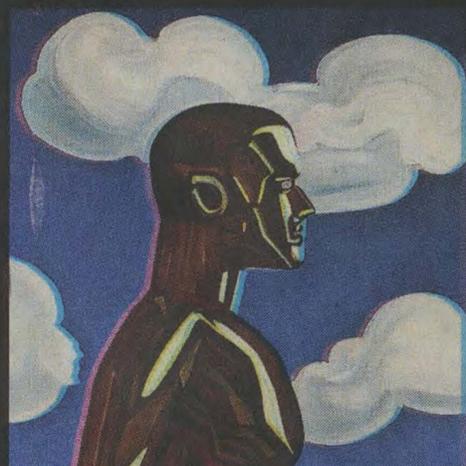**Who is this Hillary Clinton doppelgänger?**

And why does she look like a "Twin Peaks" cast member? Safe to say nobody would mistake this image for a Salle.

Now compare the general model's version with what the model tailored to Salle's paintings has produced. The algorithm has clearly acquired a

PROMPT 1

"I look up at the sky to watch the meaning flee," from a poem by Ben Lerner.

taste for crisp edges and bold colors. But there is still room for growth.

Here is a clear reject that got a little too close to the clichéd image we have of a robot.

It might be suitable for a spontaneous sketch, but hardly what you would expect to see hanging in a fancy gallery. The artist's goal is helping the machine escape some of these hackneyed symbols that it's picked up from the internet.

To help the algorithm improve, the artist selected the standout images, teaching it what a "correct" image would be.

There are always surprises that catch his imagination.

Here, it was one of the simplest images — just a wobbly cloud — that stopped him.

This one is almost too atmospheric, like the opening shot of a spaghetti western that never gets off the ground.

Eventually, the artist arrived at his favorite.

What is this? The image thwarts easy interpretation, just like a classic Salle painting. But the actual image still exists outside the artist's usual collection of disjointed symbols.

There is something deeply unsettling about this image — and that is how Salle knew it was a winner.

The algorithm had extended Salle's visual world.

This mysterious series of pictures was an outlier from a prompt inspired by the writer Sarah French.

It was surprising to see the algorithm abandon the literalism of the phrase. There are no buildings here, just two bodies embracing. So Salle continued to experiment with dozens of new images based on the embrace.

These iterations raised more questions about how the algorithm was interpreting the vague poetry of how to "unfold living." It transformed the human bodies into strange, new objects.

The figures swapped genders, joined a kickline and wore tutus.

This image of a kiss made an impression on the artist. Just look at the strange composition here.

Salle had to admit the machine was finally starting to spawn images with true artistic value. A painting like this demonstrated the principles of form that he wanted to teach the algorithm.

The colors were strange. The image was foreshortened on its sides. And at the center, a grisaille face kisses the chest of a female figure. These competing qualities were very "David Salle," even if he never picked up a paintbrush.

That face looks eerily familiar. Could the machine be pulling inspiration from Salle's 2012 painting "Sleep," or perhaps his 2018 painting "Equivalence"? Because of

"Fold up your house, but unfold living" was inspired by the writer Sarah French.

how the algorithm is engineered, it's impossible to name a direct source.

A baseline for success was for the algorithm to create somewhat plausible forms. Even if these figures could never exist in reality, the generated image gives viewers enough visual information to make a connection.

Here, the figures have transformed into an image of an artist and her easel.

The woman appears hunched over her incomplete portrait of a man. It's the kind of poor posture that anyone on a deadline can relate to.

The colors on her canvas recall elements from Salle's 1995 work "Shooting."

The algorithm is an echo chamber of Salle's career, in which his paintings collide, shatter and fuse together in unexpected ways. The artist sees faint echoes of himself. Put through the blender of a machine, Salle's art becomes a remix: a pastiche of pastiches.

It becomes dangerously tempting to read into the generated images, finding meaning where there is only code.

Salle remains unsure whether the algorithm has truly created art, but he shows no signs of wanting the experiment to end. And thanks to the algorithm's nature, it could conceivably continue long after his death.

IMAGES VIA GRANT DAVIS AND DAVID SALLE