


# Behind the Screen: AI and Co-creativity

Gary Mills



**T**erry Graff explores birds as not only one of nature's fiercest predators but also as long-standing metaphors of choice for military war machine nomenclature (e.g. F-16 Falcon, genus *Falco*--peregrine falcon, gyrfalcon). Graff's works are powerful, igniting our imaginations as we see nature, society, and technology disturbingly, yet gracefully, fused into cohesive visions of conflict—a continuous struggle within and across nature and human nature. I was inspired by Graff's work...and moved to create my own art, but I needed backup.

I'm pretty good at stick-figure drawings, but far from anything approaching artist-level. I turned to AI image generation applications to see what sort of "war birds" I could conjure. Part of my process is shared later in this section. Some of the text-to-image creations showed promise, but the road to generating what finally made it to the TOC page was full of surprises. Beyond learning how to appropriately interface with the AI, this short journey opened a pressing question: To what extent will AI applications influence war art and literature discussions or shape the creation of art itself?

Generative AI is now a common fixture within many online personal and business applications. Microsoft's Copilot or Google's Gemini AI assistant is likely active within the web browser you're using to read this text. AI is running whether you know it or not. Here are a few things to understand about how AI operates. AI algorithms are trained (called "supervised learning") on human-labeled and curated data models to find patterns and associations to make predictions related to complex variables (Keen). However, this type of training is labor-intensive due to the requirement to pre-build and model appropriate data examples to gain the desired

accuracy from the AI algorithm (Keen). Keep in mind, the data inputs and models, like the people generating, formatting, and interpreting them, are often biased, so just because the AI is supervised, it in no way guarantees it's trained on objective inputs.

Unsupervised learning can take place without human intervention. However, it establishes its own sense of potential relationships, categories, and groups (Keen). Unsupervised data explorations do not "make predictions, they only group data together" (Keen).

Unsupervised learning can be "used on data that is not labeled...can be used to find hidden patterns in data supervised models just wouldn't find" (Keen). These types of AI algorithms apply clustering ("algorithm groups similar experiences"), association ("algorithm looks for relationships between variables in data"), and dimensional reduction ("algorithm reduces [narrows] number of variables in the data") (Keen).

Between supervised and unsupervised learning models is a hybrid called semi-supervised learning. This allows the AI to be trained on a few labeled examples to then potentially find patterns in a much larger unlabeled set (Keen). These learning models have shown promising use in the medical field: "[...] you could use a semi-supervised learning algorithm on a dataset with millions of images where only a few thousand of those images are actually labeled" (Keen). As a result, "a small amount of training data could lead to a significant improvement in accuracy" (Keen). Imagine the potential of this technology across all disciplines, especially art.

This sounds amazing, but the list of potential "what ifs" is staggering. What if the labeled data is full of biased (intentional or not) or flat-out discriminatory categories? What if the learning model "finds" patterns that are not based in reality or appropriate for the task at hand? What if a module malfunctions, the algorithm is inappropriately focused, or the learning model is explicitly designed to cause harm? These are some concerns tied to AI use in critical systems

(health, military, finance, etc.) that have potentially life-altering implications. Returning to our focus on art, where the consequences are real but not (often) fatal, what are the implications for AI in this creative space?

One common objection to sharing the art studio, gallery, or writing nook with AI is that creativity is seen as an exclusively human-initiated and controlled process--no matter what tools (awl or algorithm) are used. In their *Creative Research Journal* article, "Redefining Creativity in the Era of AI? Perspectives of Computer Scientists and New Media Artists," Roosa Wingström et al. interviewed 52 computer scientists and new media artists, all using AI in their work (177). "When we examined the creative processes in the context of AI, we found that AI is approached differently between the two domains. For scientists, AI was a capable but limited tool, whereas the artists more often recognized a co-creative, playful relationship with it" (Wingström et al. 178). Scientists in this study saw AI as a "trusted [accurate and fast] companion" while artists viewed it as a "playful companion" (187). Humans "mobilize their skills into a versatile spatial creation process...respond to their culture, create meaning, move in different environments, engage in social interaction, build tools, or test new ideas" (182). Although AI can imitate some of these processes and techniques, it is not able to complete them all (182). The researchers add that "creative tasks, goals and inputs are also difficult to know beforehand, which is a problem for AI" (182). Their conclusion is "creativity in the era of AI must be revised to *co-creativity*," which in turn demands a "shift from human-centered creativity studies to co-creativity research that explains the co-constituted, complex, and spatial process between humans and AI" (Wingström et al. 189).

Creativity scholars not focused on specific disciplines or tools highlight foundational requirements of this attribute. In their look at traditional models of evaluating creativity, Jeffery

and Lisa Smith synthesize and survey common ground vital to creativity: "Thus, a creative idea is one that is clearly novel, perhaps all the way to 'surprising' and which has a chance of being successful if pursued. Novelty is an absolute criterion in that if an idea is not in the least bit novel, it is also not in the least bit creative" (Smith and Smith 32). More directly aligned to artists and authors, they assert this perspective also "speaks to questions about art and literature" (Smith and Smith 33).

Aligned with teaching and creative role models, Robert and Michele Root-Bernstein advance "adaptive copying" or the borrowing and adapting from multiple exemplars as a way to foster creativity. They further call for the use of "an even more powerful kind of copying involves the re-creation or re-discovery of results (whether of content, method, style, or principles) previously derived by the model creator" (149). They call this advanced creative practice *re-creative copying*. "The copier or re-creator finds his or her own path to the desired end and in so doing recapitulates the creative process of the original creator. When multiple models are re-created and compared over time in comparative re-creative copying, the student learns a variety of approaches to problem solving" (149). In terms of use of tools in this re-discovery process, researchers highlight elements of knowledge can be accelerated by advanced technology, but the creative process itself requires the recognition and scaffolding of a path forward: "Knowledge can and may be purveyed efficiently, just as data may be streamed ever more quickly and in greater quantities through ever-more accessible means. Understanding, in contrast, can never be purveyed efficiently because it requires re-enactment" (161).

Far from an exhaustive exploration, this snapshot of creativity (with and without AI) firmly establishes that *no* one tool, app, or algorithm can replace the human artist. Even so, tools can support creativity through the application of unmatched precision, virtual and real-world play,

and innovative surprises that support co-creation. A startling AI contribution to art is its fusion of data in novel or completely unexpected ways. Nonsense data (the algorithm's attempt to wing it to fulfill providing an output) mixes and merges without any orientation guardrails, contextual framework, or judgement. In the AI world, these unexpected outputs are called *hallucinations*. I like to think of these phantom visions in the way the late artist Bob Ross termed unintended brushstrokes on canvas—"We don't make mistakes, just happy accidents." With AI driving by itself, or even with human help, it can rapidly generate a wide range and mix of happy accidents. As I've experienced, AI can push us abruptly into the "uncanny valley" or wake us to a surrealistic nightmare. Yet, these also provide opportunities to view contexts we would have never considered until that moment.

How far are we willing to let AI run without trained boundaries? The Museum of Modern Art (MoMA) allowed AI to *dream* in the Refik Anadol AI Exhibit—"Unsupervised." Anadol's AI architecture "'walks' through its conception of this vast range of [MoMA] works, it reimagines the history of modern art and dreams about what might have been—and what might be to come" (Anadol). An internationally acclaimed artist and AI pioneer, Anadol highlights AI's ability to meld concepts, materials, and art in novel ways: "Once AI starts to create this new reality, we learned that there is not any borders between these biased categories that we need as humans to understand things. That is a truly multi-dimensional imagination. It is blending past, now, and future. It is blending multiple materials. It's just convergence of things that we thought they are independent" (MoMA).

Contributing to the same assessment of AI, Michelle Kuo, Chief Curator at Large and Publisher, MoMA, highlights how artists often apply tools in astonishing ways:

One thing that artists have always been very good at is taking a tool that exists in the world and making it do something it's not supposed to do. When artists are looking at technology as another kind of tool to experiment with, or maybe even subvert or divert, they're saying, I'm not just going to reject this technology wholesale at all. In fact, I might embrace it, but I might try to make it do something else. (MoMA)

Kuo places AI confidently not only in artists' toolkits but also expects its vision of use to change and adapt in unimagined ways.

All this to say, the potential for new genres, techniques, uses, and meaning grows with AI co-creating. Although Anadol's MoMA AI Exhibit—"Unsupervised"—is exciting and groundbreaking, it is so utterly dependent on technology and programming that to say it runs free is to forget the constraints and boundaries that reside in everything from the requisite keyboard, motherboard, and regulated, filtered power required to bring it all to life. Artists have nothing to fear. Importantly, non-artists (like myself) should see this opportunity to co-create as a way to join the rich, frustrating, messy, effort wrenching, critical thinking expanding, but immensely rewarding arena of artists.

The remainder of this section highlights some of the frustrations and surprises I experienced as a rookie AI artist. As a co-creative assistant, AI serves as a path to play and innovation. However, as you'll see, unlike taking your text and asking AI to "make it better," the generative AI art side (especially text-to-image creations) demands discursive control and specificity, intertextual awareness (what does the AI-modified prompt mean by "as seen in the works of James Montgomery Flagg and Howard Chandler Christy"?), persistence, and a willingness to jump in and delete, add, recolor, and morph with tools outside AI. You are

ultimately the final editor of your vision of the work (thank you, MS Paint, PowerPoint, and Canva) that AI could never muster.

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### Works Cited

- Anadol, Refik. "Unsupervised." *The Museum of Modern Art*, 2022. Accessed 6 Feb. 2025, [www.moma.org/calendar/exhibitions/5539](http://www.moma.org/calendar/exhibitions/5539).
- The Museum of Modern Art (MoMA). "AI Art: How Artists Are Using and Confronting Machine Learning: HOW TO SEE LIKE A MACHINE." *YouTube*, 8 Feb. 2025, [www.youtube.com/watch?v=G2XdZIC3AM8](http://www.youtube.com/watch?v=G2XdZIC3AM8).
- Keen, Martin. "Supervised vs. Unsupervised Learning." *IBM Technology Video Lecture*, 27 July 2022. Accessed 14 Jan. 2025, [www.youtube.com/watch?v=W01tIRP\\_Rqs](http://www.youtube.com/watch?v=W01tIRP_Rqs).
- Root-Bernstein, Robert, and Michele Root-Bernstein. "People, Passions, Problems: The Role of Creative Exemplars in Teaching for Creativity." *Creative Contradictions in Education: Cross Disciplinary Paradoxes and Perspectives*, edited by R. Beghetto and B. Sriraman, Springer, 2017, pp. 143-164.
- Smith, J.K., and L.F. Smith. "The Nature of Creativity: Mayflies, Octopi, and the Best Bad Idea We Have." *Creative Contradictions in Education*, edited by R. Beghetto and B. Sriraman, vol. 1, Springer, 2017, [www.doi.org/10.1007/978-3-319-21924-0\\_2](http://www.doi.org/10.1007/978-3-319-21924-0_2).
- Wingström, Roosä, Johanna Hautala, and Riina Lundman. "Redefining Creativity in the Era of AI? Perspectives of Computer Scientists and New Media Artists." *Creativity Research Journal*, vol. 36, no. 2, 2022, pp. 177-193, [www.doi.org/10.1080/10400419.2022.2107850](http://www.doi.org/10.1080/10400419.2022.2107850).

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## Practicum: Watch Me Put the "I" in AI

In terms of my own engagement with AI, I experienced some elements of play, surprise, and novelty. My initial drafts started with prompts I quickly generated. I assumed these were detailed enough, expecting AI to creatively sprint ahead. I underlined those key phrases (below) in my actual submission input.

### Image 1 prompt

"1940's advertising poster. Medium sized lettering "War Literature & the Arts" realistic falcons circle above an airfield with a B-17 parked in the grass, ensure the birds only have one set of wings each, the birds are in a formation"

The aircraft is photorealistic, although still far from the requested (iconic) B-17. It is an impressive fusion of U.S. (B-25) and German (Dornier 17) WWII bombers. The birds range from



*Image 1: Uncanny Valley flies over uncanny precision.*

Audubon quality renderings to drafts for new creatures in the next installment of *Avatar*. Interestingly, I needed to not only add, but also continue to prompt that the "birds only have one set of wings each" throughout each revision. AI selectively gave me what I asked for and plenty of what I didn't (Image 1).



The program I was using generated four images based off the same prompt or “seed” (Image 2). Notice how it translated birds in formation and realistic falcons across each image. It even had trouble at times generating the text provided in quotes in the prompt.



*Image 2: Each text prompt generated four images or “seeds.” The formation in the bottom right image is particularly striking.*



*Image 3: Note the movie poster style of the top, left image. The bottom left image provides the birds' point of view on the airfield.*

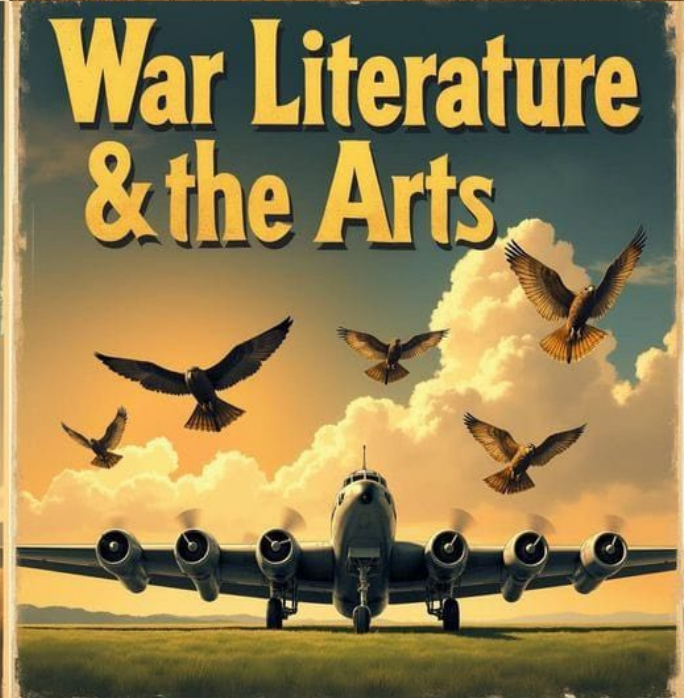
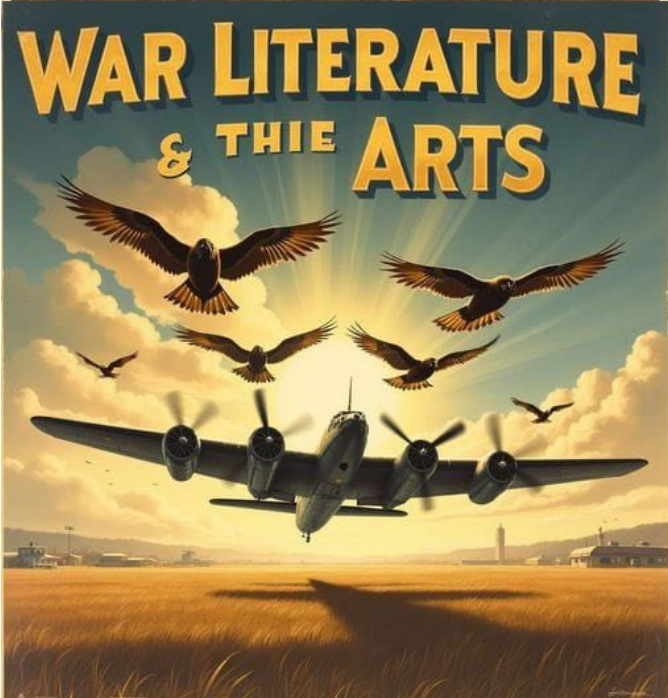
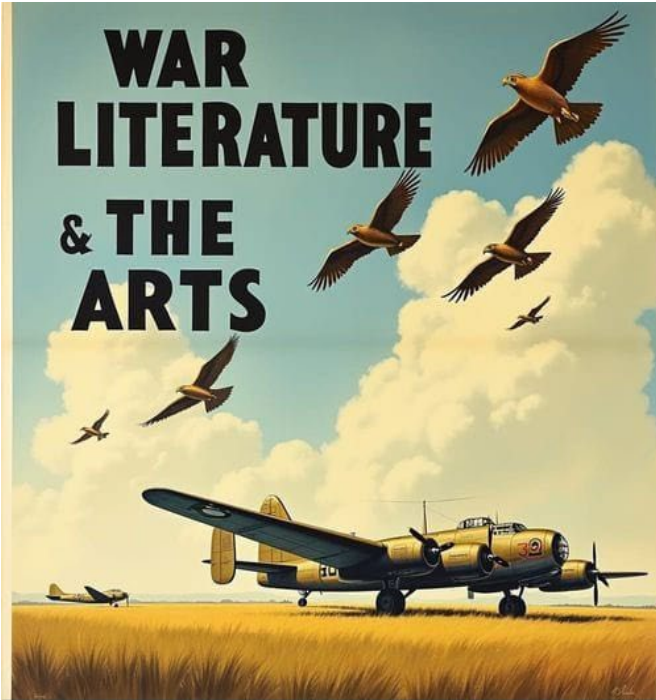


Image 4: Avian and aircraft bodies became more realistic.



*Image 5: Note the bird formation in the bottom right image. The top left image does not include birds, but it is the most dynamic image of aircraft in flight. Count the number of engines on each wing in the top left image.*

As my attempts to tweak the prompt advanced, the birds took on intriguing qualities of aircraft themselves (Image 6). Beaks became propellers and bird wings and tailfeathers took on the look of aircraft control surfaces. The transformation of the birds on the left strikes my “uncanny valley” nerve, while the image on the right is less disturbing—almost as if this is some expected techno-avian evolution.



*Image 6: Note the fusion of the contrasting bird and aircraft attributes into a coherent artistic element in each image.*

After multiple tries, I chose to activate the programs “Advanced Prompt Editor,” which provides style templates such as Realistic Anime, Cinematic, Hyperreal, Cubist, Detailed Gouache, and many others. However, it was my activation of “Use prompt magic” that the following images were generated (Image 7). Note how the magic prompt (I’ve underlined its key contributions to the prompt) provides explicit genres, styles, and artists to use as guides.

## Image 7 Prompt

"A dramatic, highly detailed 1940s-style military recruiting poster, featuring bold, Art Deco-  
inspired typography, with medium-sized lettering, in a distressed, vintage font, showcasing the  
striking phrase 'War Birds' in the same size as the rest of the typography. In the background, a



vast, sprawling airfield stretches  
across the rolling landscape, with a  
vintage B-17 bomber aircraft parked  
in the lush, vibrant green grass, its  
propellers spinning dynamically, as if  
ready for takeoff. Above, a majestic  
formation of realistic falcons soars  
through the sky, each bird boasting a  
single set of wings, in a precise,  
aerodynamic arrangement, evoking  
the skill and precision of military  
aircraft. The falcons' feathers, wings,  
and talons are intricately detailed,  
with a mix of soft, feathery textures

*Image 7: Tighter alignment of seed images.*

and sharp, angular lines, blending the classic American illustration style of Norman Rockwell and  
N.C. Wyeth, with the dramatic lighting and composition of wartime propaganda posters, as seen  
in the works of James Montgomery Flagg and Howard Chandler Christy, with a realistic,  
cinematic quality, reminiscent of a classic Hollywood war film, with warm, golden lighting and  
deep, atmospheric shadows."

## Image 8

"A 1940s vintage military advertising poster, with medium-sized lettering in a classic serif font, reading "War Literature & the Arts" in a distressed, worn look ensure spelling is correct. In the background, a realistic depiction of a World War II airfield, with a B-17 bomber aircraft parked in the grass with its propellers rotating in motion, Above the airfield, a formation of realistic



*Image 8: From this point I was then able to take the top, right image and alter it through editing programs I typically use.*

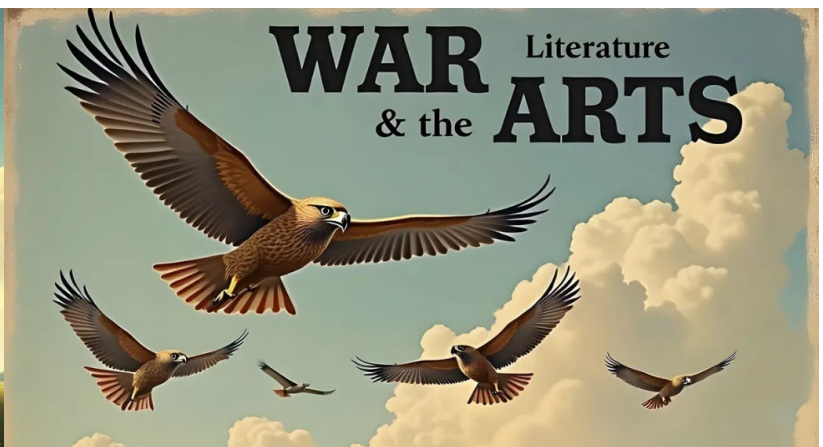
falcons, each with a single set of wings with realistic looking claws, soar in a V-formation, their feathers and wingspan meticulously detailed. The falcons are rendered in a realistic, yet stylized manner, reminiscent of the work of wildlife artist, Robert Bateman. The overall aesthetic is inspired by the patriotic posters of the 1940s, with a hint of Norman Rockwell's storytelling style and the atmospheric lighting of a J.M.W. Turner landscape."

I encourage you to throw yourself out there and co-create with AI. At a minimum, it'll change your perspective on what new genres of art are possible.



Click image above or the link below to see AI-generated animation

[https://video.wixstatic.com/video/134164\\_3df77e3e0a6748648e01015831a5bcbe/1080p/mp4/file.mp4](https://video.wixstatic.com/video/134164_3df77e3e0a6748648e01015831a5bcbe/1080p/mp4/file.mp4)



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