

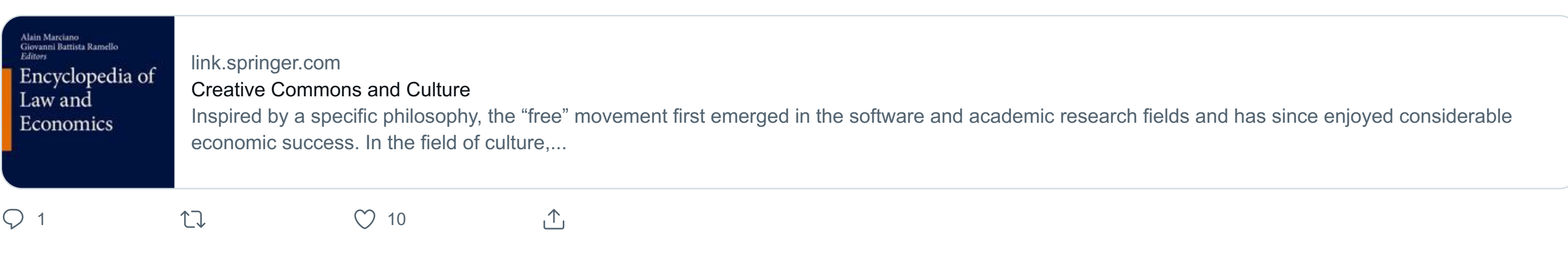
So it's time for a (rather long) thread on AI generative art, copyright, and intellectual property.

8:00 AM · Aug 16, 2022 · Twitter for iPad

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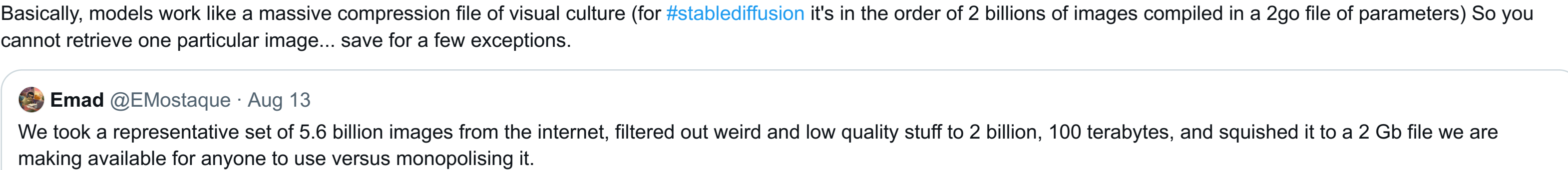


Alexander Doria @Dorialexander · Aug 16
Replying to @Dorialexander
As a disclaimer, I am not a lawyer, but I do have a reasonable expertise in the interaction between culture and copyright (for instance: policyreview.info/articles/analy... or link.springer.com/referencework...)



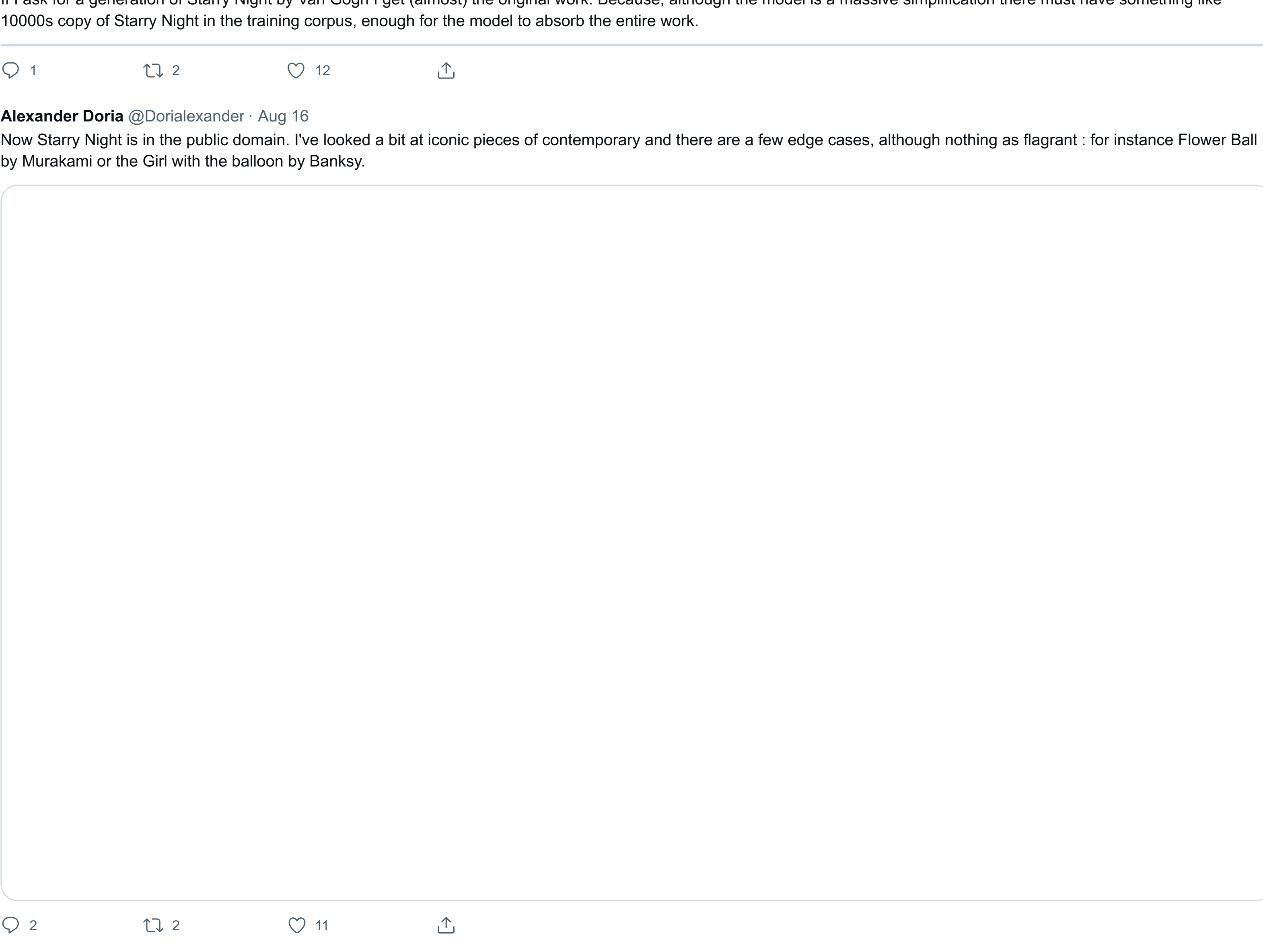
Alexander Doria @Dorialexander · Aug 16
1. Can generative model recreate original (potentially protected) works? Yes, definitely, although it remains extremely rare and in these few cases it's not really an issue.

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Basically, models work like a massive compression file of visual culture (for #stablediffusion it's in the order of 2 billions of images compiled in a 2go file of parameters) So you cannot retrieve one particular image... save for a few exceptions.



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If I ask for a generation of Starry Night by Van Gogh I get (almost) the original work. Because, although the model is a massive simplification there must have something like 10000s copy of Starry Night in the training corpus, enough for the model to absorb the entire work.

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Now Starry Night is in the public domain. I've looked a bit at iconic pieces of contemporary and there are a few edge cases, although nothing as flagrant : for instance Flower Ball by Murakami or the Girl with the balloon by Banksy.



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All in all, due to the requirement for massive copies in the training set, the issue is rather constrained and can be easily solved in the future (either by deduplicating the original corpus or by applying filtering methods).

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2. Can the model recreate copyrighted elements ? Yes, this is a big issue (probably THE big issue) and people are already working on it.

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In contrast with original works, copyrighted elements (which include especially characters) are much more likely to be spread out over a large amount of images. And even if the generated creation in the end is creative it may still be a copyright infringement.

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It's already impossible to generate something from well-known license on all the leading generative models (Dalle2, Midjourney, #StableDiffusion): the original images have been intentionally altered. If I ask for Donald Duck or Tintin on StableDiffusion, I get this:

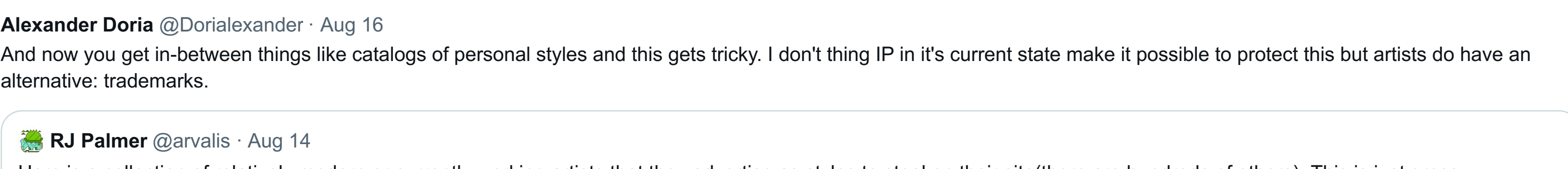


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In my experience, this mostly concerns major IPs (because of the high economic/legal stakes and also because it is much more widespread in the training corpus, with added risk of faithful recreation). But the same measures would probably extended to lesser known IP if needs be.

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3. Can the model legally recreate the style of known artists? It's complicated because "style" is not properly defined.

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There is a large continuum that goes from the straight borrowing of signature elements (very likely problematic) to a generic artistic mood. For instance the "studio ghibli style" is by now so widespread and used by so many unrelated artists that it's basically public domain.

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And now you get in-between things like catalogs of personal styles and this gets tricky. I don't thing IP in it's current state make it possible to protect this but artists do have an alternative: trademarks.



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A well-known precedent is the case of Don Rosa, a Disney artist with basically no IP on his comics. He has started to trademark his name and now any advertised collection of his stories has to pay him something (not as the holder of IP but as the trademarked author)

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With personal styles, the real value does not lay in the set of parameters that encode the style in the model but with their (advertised) association with the author name. I can see trademark bring repurposed this way (in a commercial context) in a near future

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4. Is it OK to put copyrighted works in the training corpus, regardless of what the model would make out of it? It's a bit complicated but I would say generally yes.

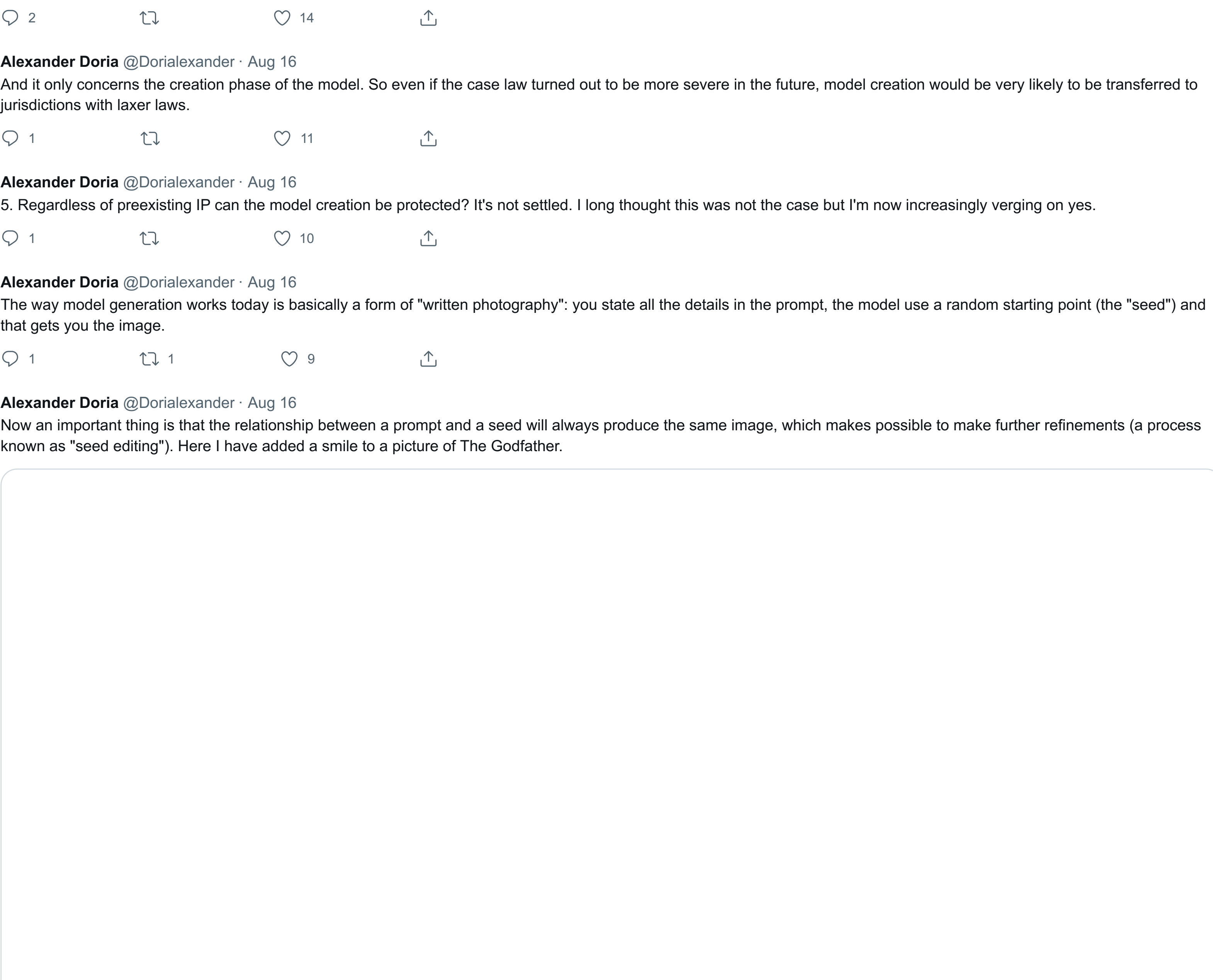
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The creators of the models can take advantage of all the preexisting legislation on the legality of search engines and text mining (so for instance the Google Book case in the US, the TDM and ISS exceptions in Europe).

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And it only concerns the creation phase of the model. So even if the case law turned out to be more severe in the future, model creation would be very likely to be transferred to jurisdictions with laxer laws.

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5. Regardless of preexisting IP can the model creation be protected? It's not settled. I long thought this was not the case but I'm now increasingly verging on yes.

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The way model generation works today is basically a form of "written photography": you state all the details in the prompt, the model use a random starting point (the "seed") and that gets you the image.

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Now an important thing is that the relationship between a prompt and a seed will always produce the same image, which makes possible to make further refinements (a process known as "seed editing"). Here I have added a smile to a picture of The Godfather.



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Due to this process and the fact that the most interesting creations rely on elaborated prompts, image generation is starting to looks like a lot like... photography. You basically have a photo studio by words and can play with the frame, the lenses, the light, the composition.

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Now, although photography is nearly 200 years old, IP laws on photography are still surprisingly fuzzy. For instance in France this picture is not protected as it was deemed in case law that it was not original enough.

Alexander Doria @Dorialexander · 23h
In other countries like Germany you have different laws for photographs (Lichtbilder) and photographic work of art (Lichtbildwerke) with not the same level of protection.

Alexander Doria @Dorialexander · 23h
I can really see an analog here with prompt creation here. Writing "A natural landscape in the style of Studio Ghibli" is basically equivalent to taking a photo of what you see in front of view with a phone. Basically, it will be hard to claim originality.

Alexander Doria @Dorialexander · 23h
Now elaborated prompts, especially it involves seed editing and other adjustments is a documented creative process, with a rather clear authorial intent. This is vastly different from the previous case laws regarding generative works which were mostly algorithmic variations

Alexander Doria @Dorialexander · 20h
A big concern in the 1990s was that copyright of generative works could be virtually applied to millions of works which is unmanageable. That was a prevailing opinion in UK case law (Express Daily Press v. Daily post) or in the French collecting societies (especially the SACEM)

Alexander Doria @Dorialexander · 20h
The unique association between a prompt, a seed and additional parameters or processes (esp. inpainting) largely alleviated these concerns and I would not be surprised if a fully generated seeded work is acknowledged as original in a jurisdiction in coming years

Alexander Doria @Dorialexander · 19h
And this could even open up the possibility of corporate protection for a limited range/set of prompts and parameters (although here this will probably be much messier). And this open up a very important point:

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6. How will this play out in practice? Nobody knows. Researchers currently favor sociological/economic approaches to intellectual property, as there is in fact a very large discrepancy between the principles of the law and the ways it is applied.

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