

# The Matter of Art:

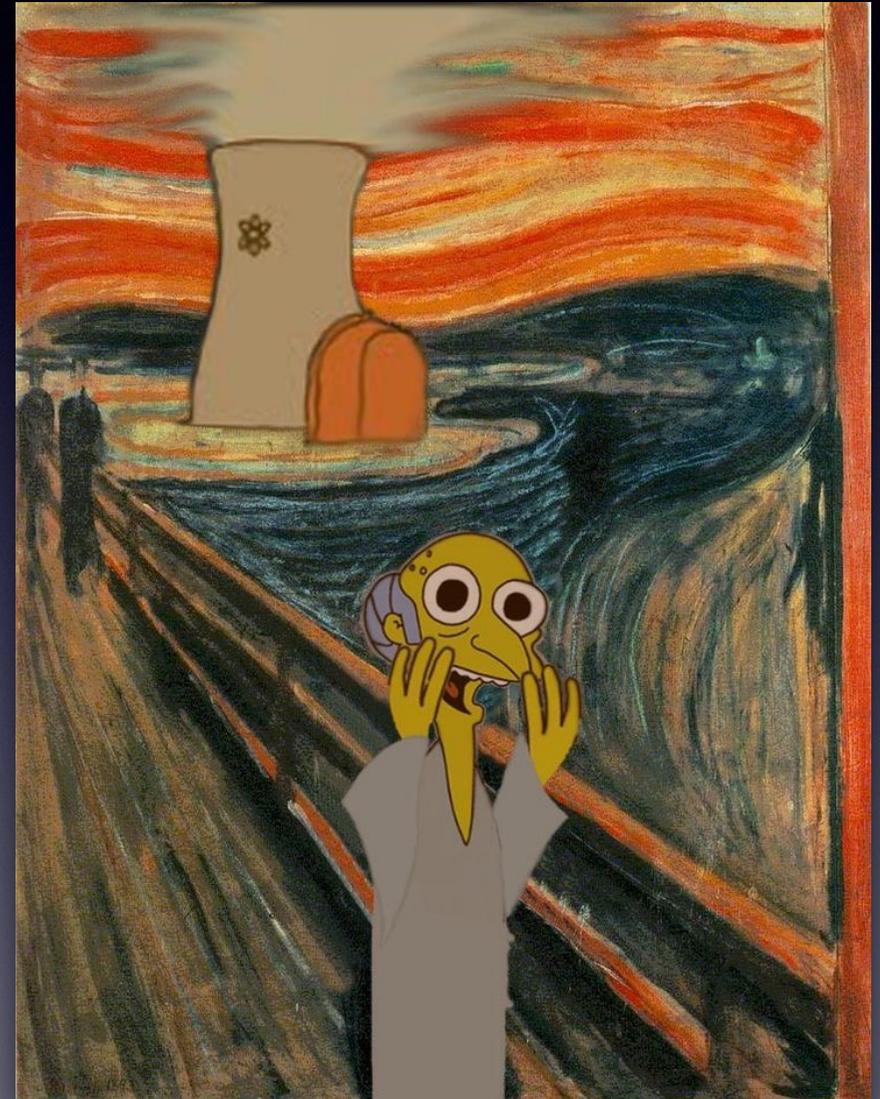
## Authenticity Criticism in the Humanities

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The Digital Literary Stylistics Workshop  
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# Authentication

- Stylistics ~ authentication
  - authentic vs (fake vs misattributed)
- Problem across the Humanities
  - learn from / teach other fields
- Focus:
  - Art History (pictorial, visual arts)
  - “Authorship” authentication



# Difference

- Hard to compare because of “materiality”:
  - a late copy of Shakespeare can still be “real”
  - a copy of a Picasso, however perfect, cannot
- Art historians always work with “autographs”
  - Prime importance of the original “carrier”
  - Emphasis on materiality
    - Physical, Chemical analysis (e.g. ink, cloth, ...)
    - cf. Pollock’s polar bear

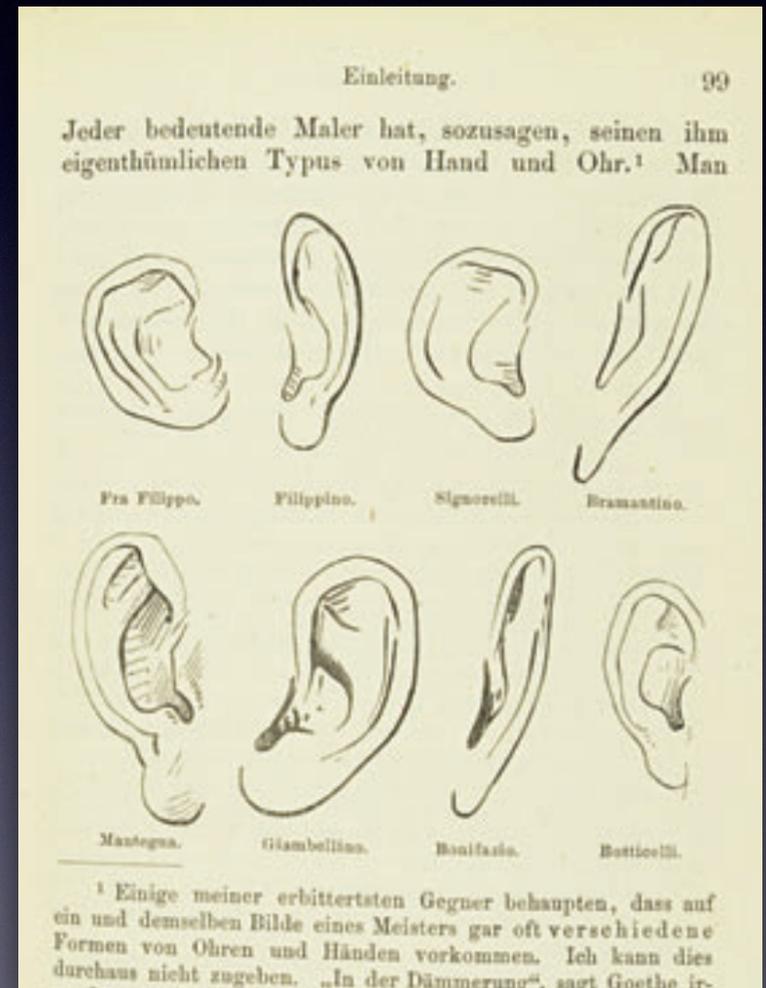


# Connoisseurship

- Authentication still primarily expert-driven
  - art-market professionals: dealers, curators, art historians, ...
- All the problems that “we” react to, knowledge:
  - dies with the experts
  - is too implicit to be shared
  - is barely replicable (cf. inter-subjectivity)
- Huge economic potential
  - Much more explicit legal system than for textual authorship
  - Experts do not give up control?

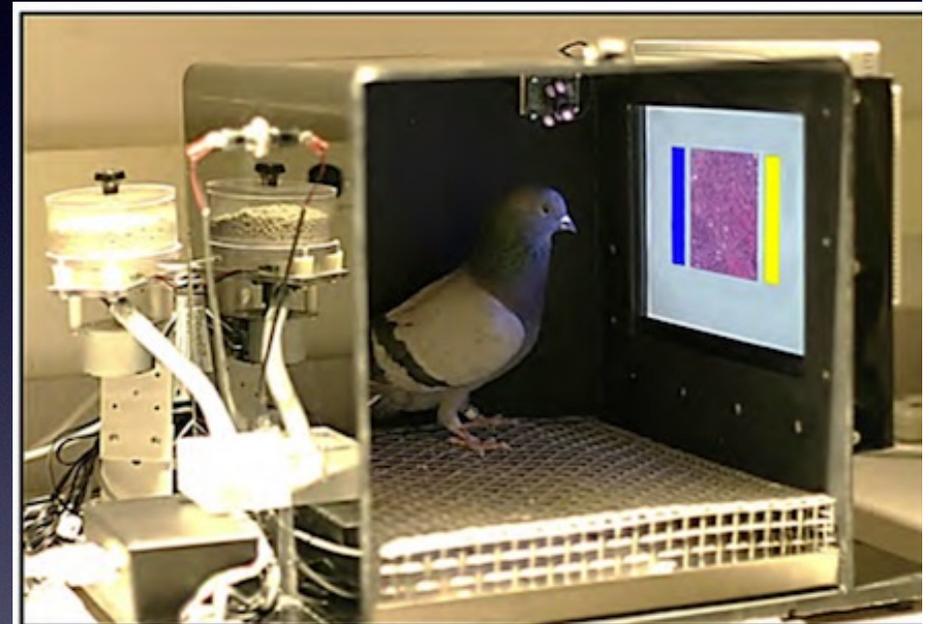
# “Stylistic” analysis

- Morphological, visual inspection
- Pioneered by Giovanni Morelli (late 19C)
  - *Grundformen*
  - Ears and hands >< “content”
- Surprisingly similar to ‘function words’
  - Interesting to trace in other fields
  - E.g. Minio-Paluello, “particle method”
- Hardly any quantification...



# Huge potential

- Computational, digital studies (surprisingly) scarce, despite expert dominance
- Authentication-in-Art conference
- Apart from scattered small-scale studies, mainly canon (e.g. Van Gogh)
- Despite huge potential
- Number of extremely valuable studies using Machine Learning

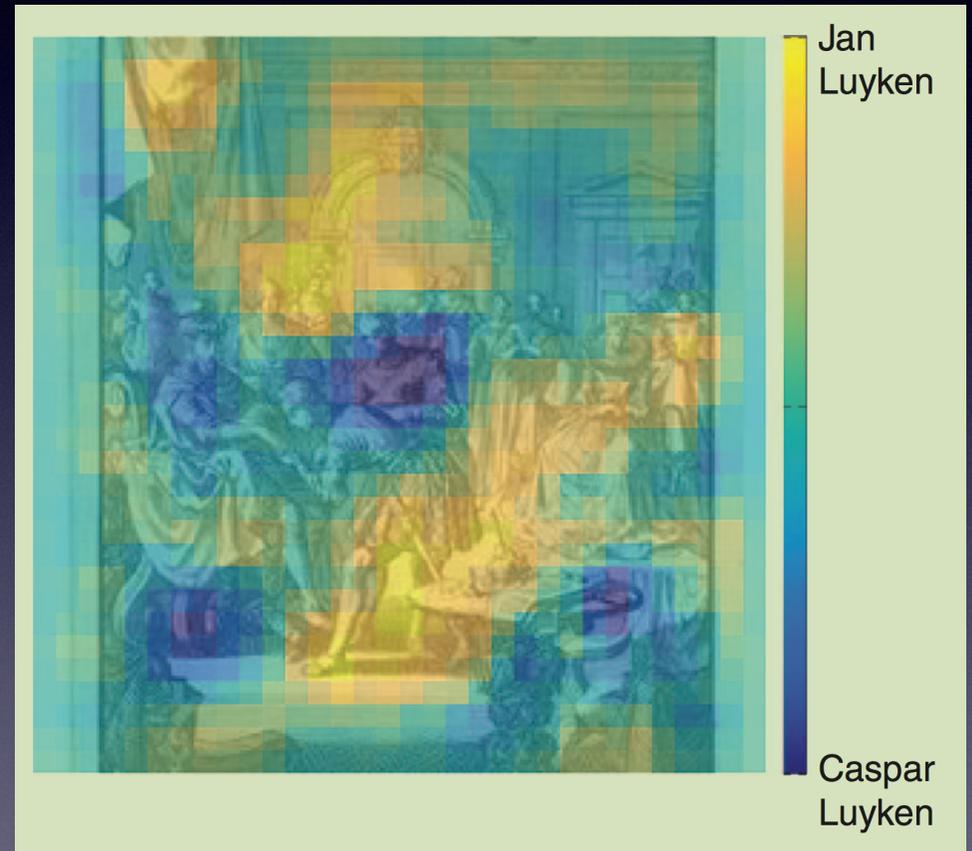


**Fig 1. The pigeons' training environment.** The operant conditioning chamber contains a pellet dispenser, and a touch-sensitive screen upon which the medical image (blue and yellow rectangles) were presented.

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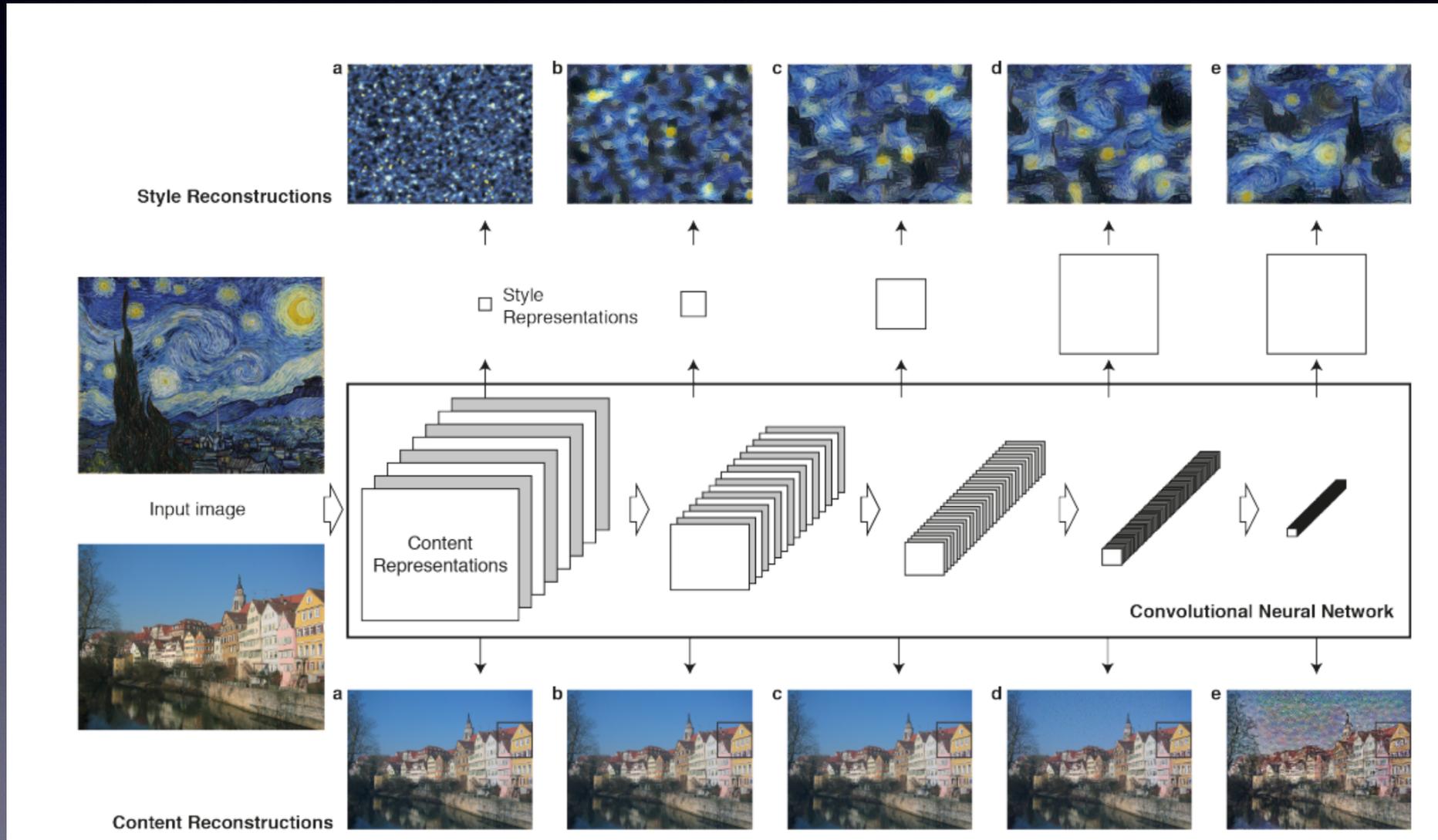
# Rijksmuseum dataset

- PigeoNET
- Huge advances in Computer Vision
- Promising attribution results using data-driven method
- Even differentiate collaborating painters within painting
- “Rolling Stylometry” in 2D!



# Neural Style Transfer

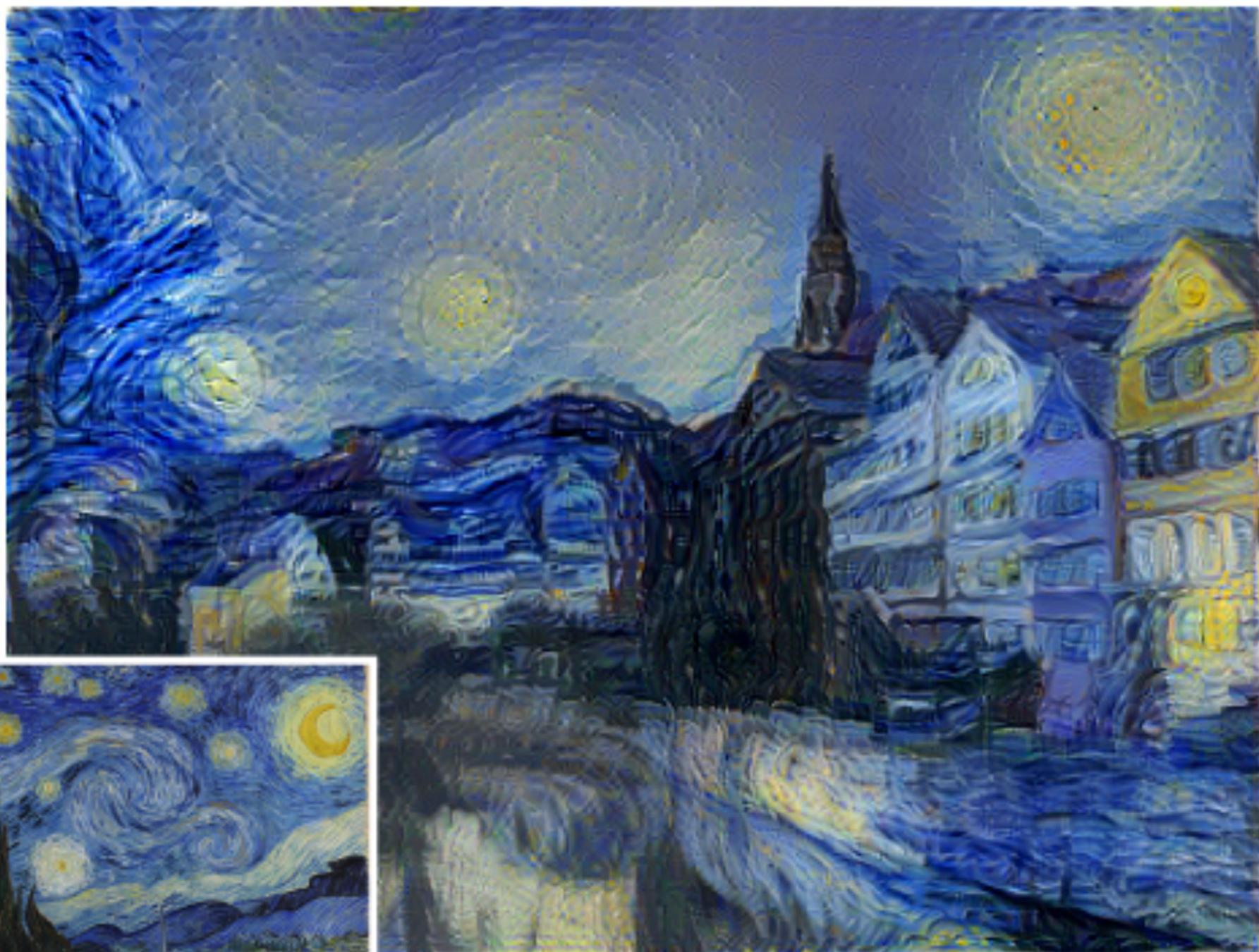
Superimpose style of painting onto another ('AI Photoshop filter')



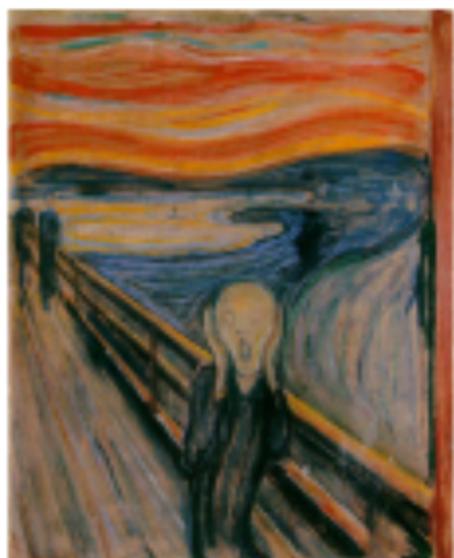
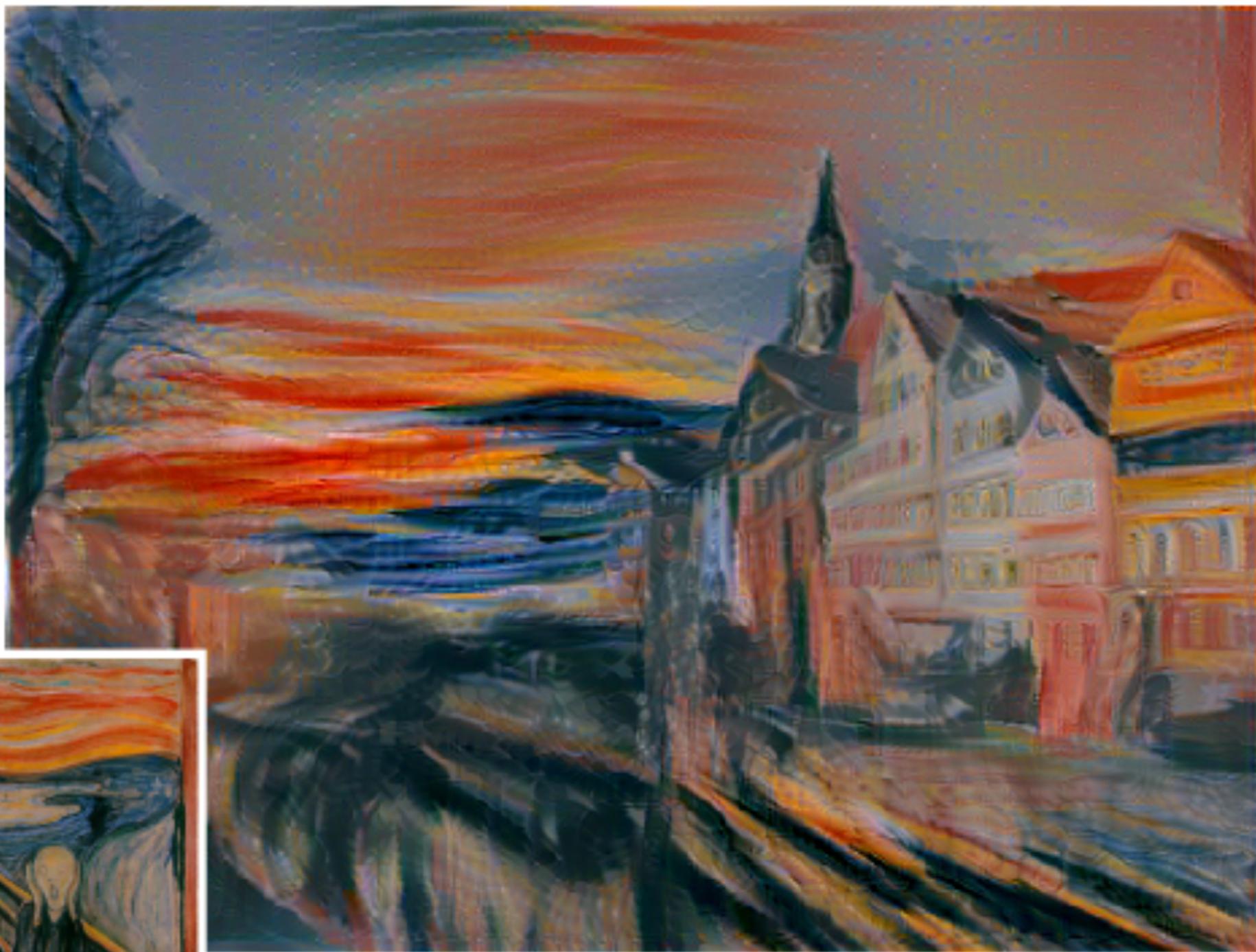
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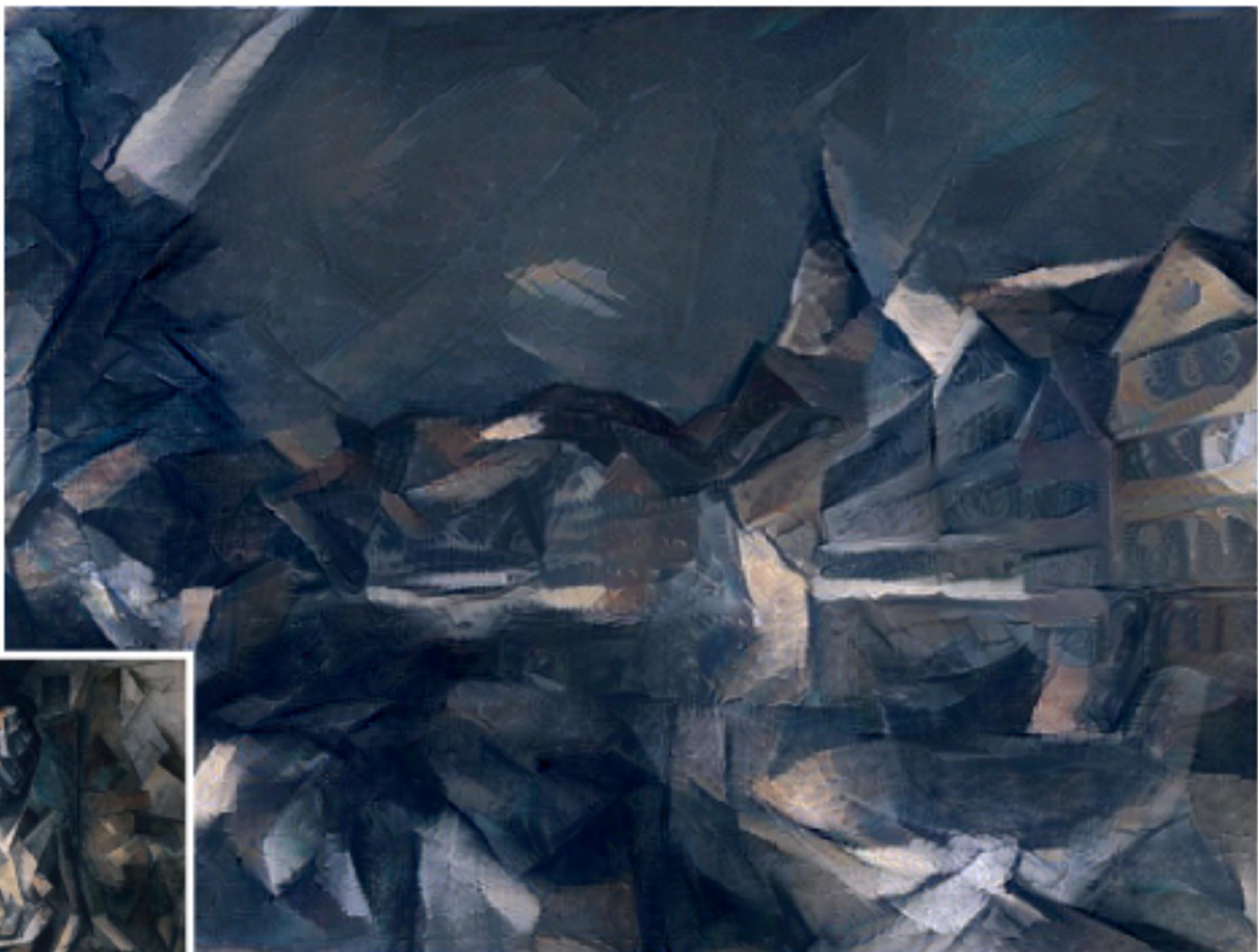
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D



E



# Conclusions

- As we inaugurate this SIG, good to keep looking across the borders:
  - Authentication: generic problem, societal & economic relevance
  - Learn from each other's vocabulary
  - Learn to define and explain/visualize styles
- Art history:
  - Interesting parallels (that call for modesty)
  - Computer less 'institutionalized'? (pad ourselves on the chest?)
  - Neural Style Transfer for literary authors?

# Selected references

- Van Noord et al. Toward Discovery of the Artist's Style: Learning to recognize artists by their artworks. *IEEE Signal Process. Mag.* 2015.
- Gatys et al., A Neural Algorithm of Artistic Style, *ArXiv* 2015.
- McClean, D., Authenticity in Art and Law. A Question of Attribution or Authorization? *Art.zip* .
- Melius, J. Connoisseurship, Painting, and Personhood. *Art History* 2011.
- Watanabe, S. et al. "Pigeons' discrimination of paintings by Monet and Picasso," *J. Exp. Anal. Behav.* 1995.
- Kestemont, M.. "Function Words in Authorship Attribution. From Black Magic to Theory?" Proceedings of CLfL 2016.