

# Supplementary Material

## A. BPL Characters Generation Results

We show in what follows some characters generations by the BPL, these characters are belonging to different ciphered and regular manuscripts.

### A.1. Borg Ciphered Manuscript

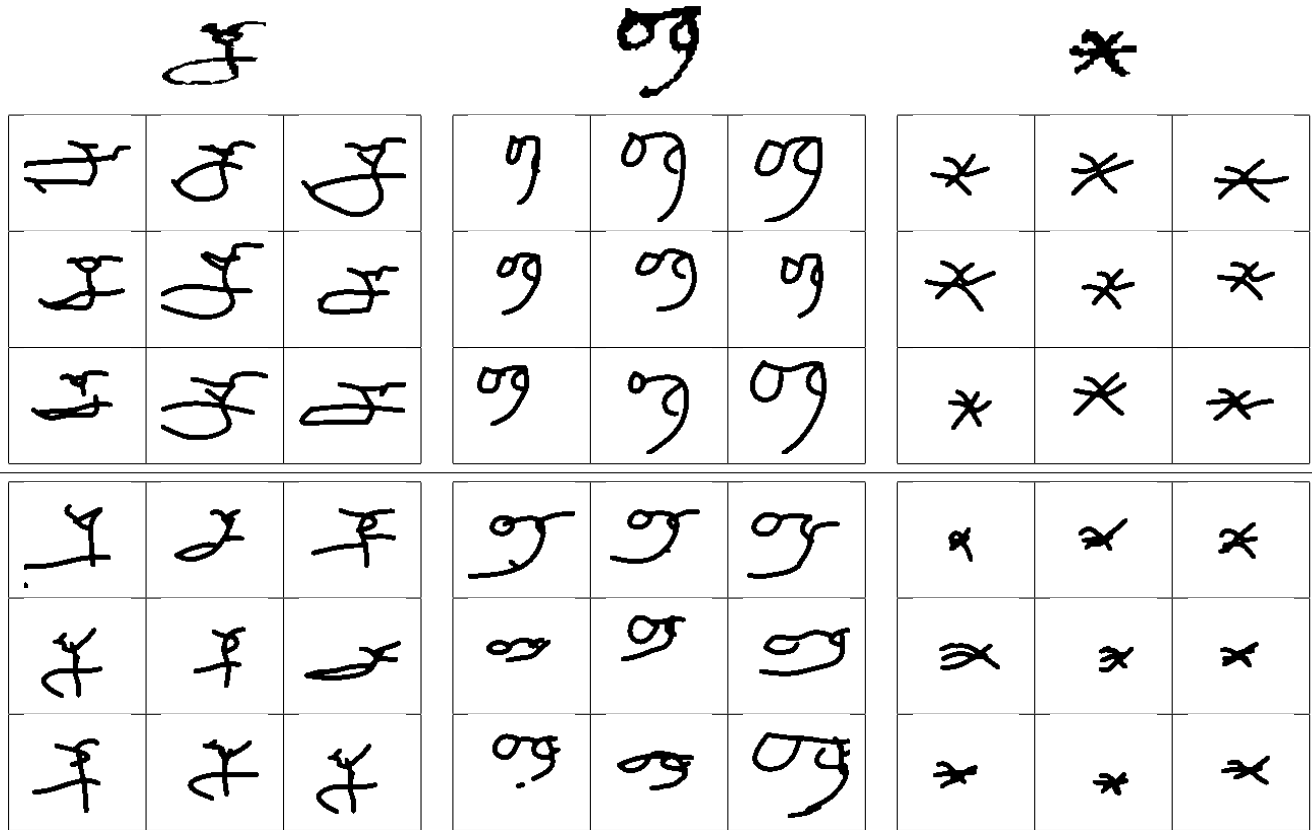


Figure 1: Generating new exemplars given one Borg ciphered symbol. **(UP)**: Conditioning on the same symbol (in-sample) shown on top of the nine-cipher grids. **(DOWN)**: Conditioning on a different example of the same class (out-sample). The nine-character grids were generated by BPL.

## A.2. Chinese Manuscript

钱			糕			仿		
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿
钱	钱	钱	糕	糕	糕	仿	仿	仿

Figure 2: Generating new exemplars given one Chinese character. **(UP)**: Conditioning on the same character (in-sample) shown on top of the nine grids. **(DOWN)**: Conditioning on a different example of the same class (out-sample). The nine-character grids were generated by BPL.

### A.3. Greek Manuscript

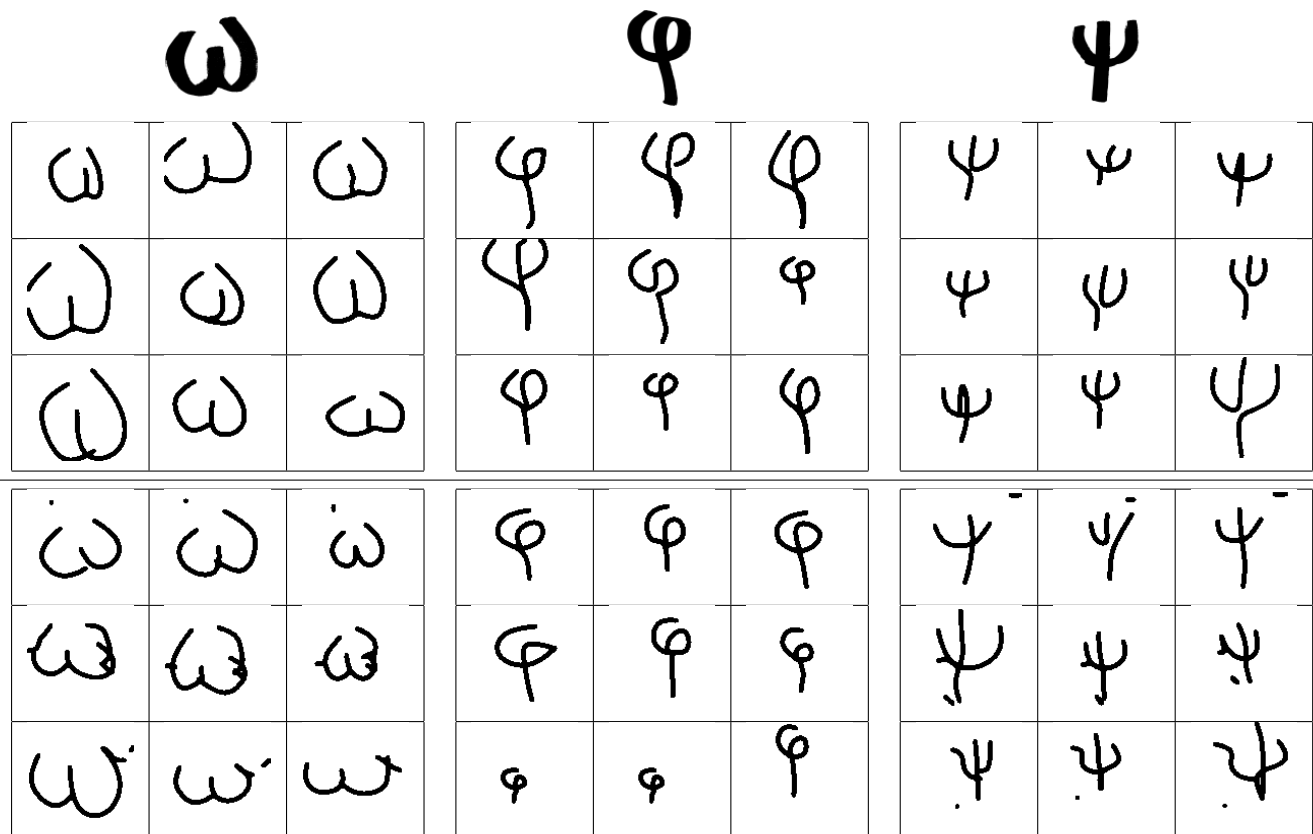


Figure 3: Generating new exemplars given one Greek character. **(UP):** Conditioning on the same character (in-sample) shown on top of the nine grids. **(DOWN):** Conditioning on a different example of the same class (out-sample). The nine-character grids were generated by BPL.

#### A.4. Latin Manuscript

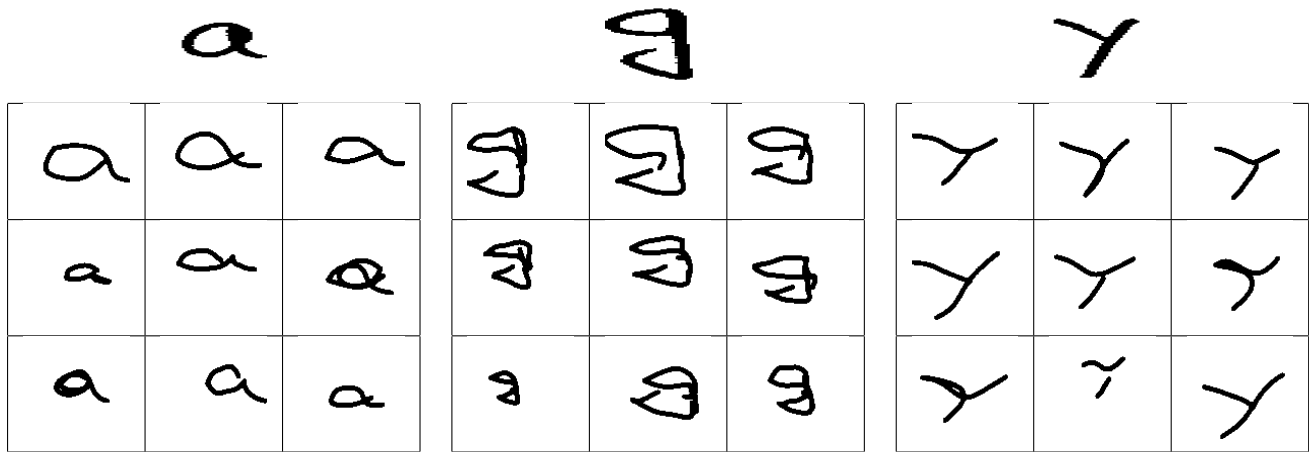


Figure 4: Generating new exemplars given one Latin character. The nine-character grids were generated by BPL.

#### B. GAN Generations Results

For comparison, We tested generating characters in a single shot scenario by GANs. For this purpose, we used the SinGan [1] that was developed to generate from a single image. The obtained results are shown in Figure 5, as it can be seen these are unsatisfactory. The model starts by producing noisy images and then overfitted and produce the same image that was conditioned on.

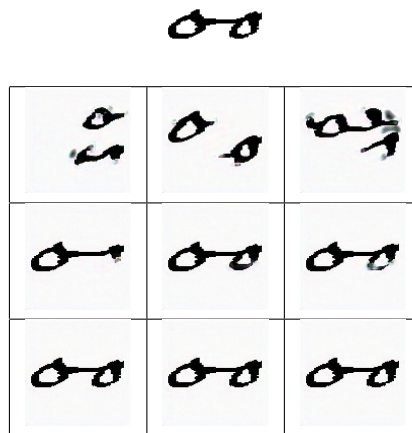


Figure 5: Generating new exemplars given one cipeherd symbol. The nine-character grids were generated by SinGan.

#### References

- [1] Tamar Rott Shaham, Tali Dekel, and Tomer Michaeli. Singan: Learning a generative model from a single natural image. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pages 4570–4580, 2019.