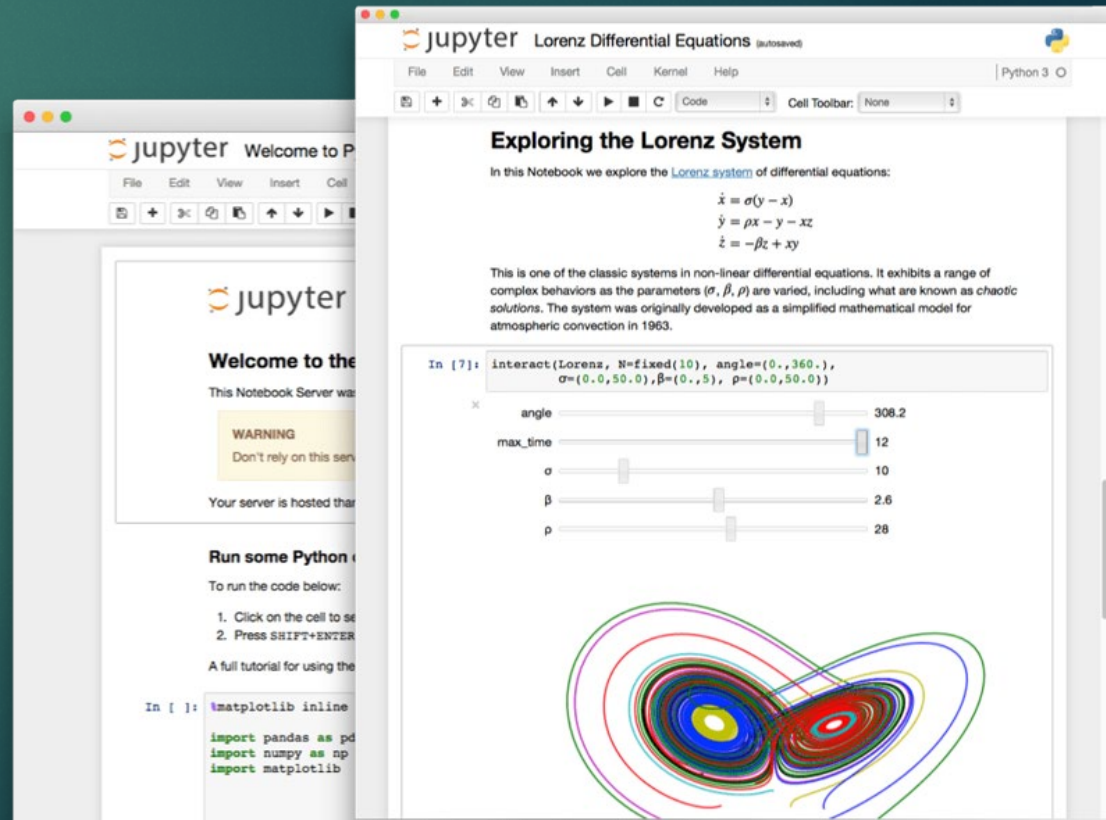
Jupyter notebooks for Research

JAMES SLACK & NÚRIA RUIZ

What are Jupyter notebooks?

- Computational notebook
- Multi-language support
- Open Source
- https://jupyter.org/



Working with Jupyter

Local Install

- Ideal for exploratory use
- Individual research
- More experimental

Jupyterhub

- Multiuser environment
- Cloud hosted solution
- Ideal for group research, within or across institutions

Sharing Jupyter

Static Published notebook

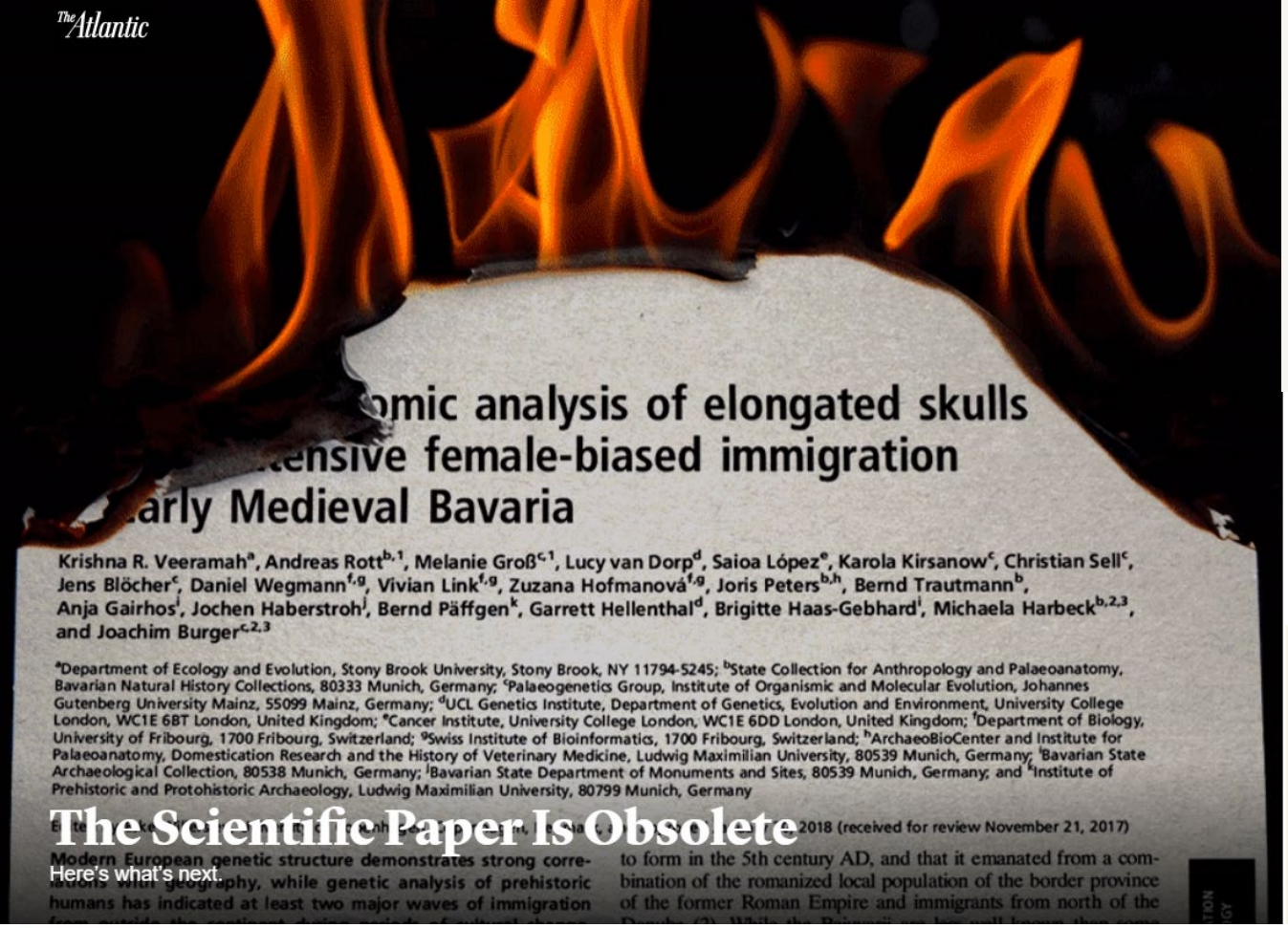
- Good for sharing concepts

Shareable Interactive version

- Ideal for sharing output to other researchers
- Public engagement

Why use Jupyter?

- Reliably document computational workflows
- Create visualizations alongside explanations within document
- Create reproducible analyses that can easily be shared
- Combine software code, computational output, explanatory text and multimedia resources in a single document
- Analyse large remote data sets


The Atlantic
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Krishna R. Veeramah[a], Andreas Rott[b,1], Melanie Groß[c,1], Lucy van Dorp[d], Saioa López[e], Karola Kirsanow[c], Christian Sell[c], Jens Blöcher[c], Daniel Wegmann[f,g], Vivian Link[f,g], Zuzana Hofmanová[f,g], Joris Peters[b,h], Bernd Trautmann[b], Anja Gairhos[i], Jochen Haberstroh[j], Bernd Päffgen[k], Garrett Hellenthal[d], Brigitte Haas-Gebhard[i], Michaela Harbeck[b,2,3], and Joachim Burger[c,2,3]
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2018 (received for review November 21, 2017)
Modern European genetic structure demonstrates strong correlations with geography, while genetic analysis of prehistoric humans has indicated at least two major waves of immigration
to form in the 5th century AD, and that it emanated from a combination of the romanized local population of the border province of the former Roman Empire and immigrants from north of the
The Scientific Paper Is Obsolete
Here's what's next.


Nodebook
KEVIN ZIELNICKI
July 26, 2017 - San Francisco, CA
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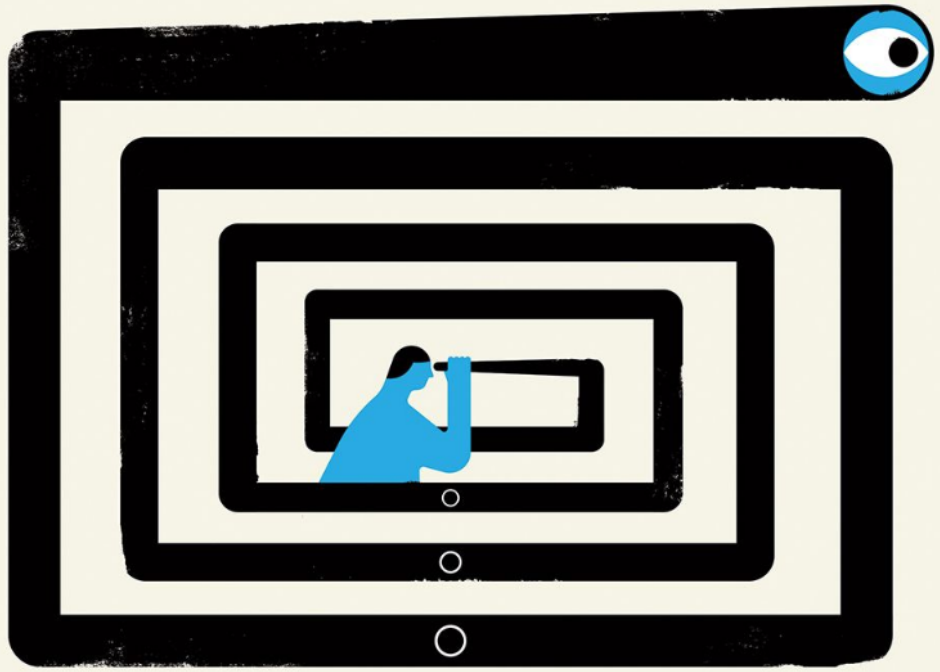
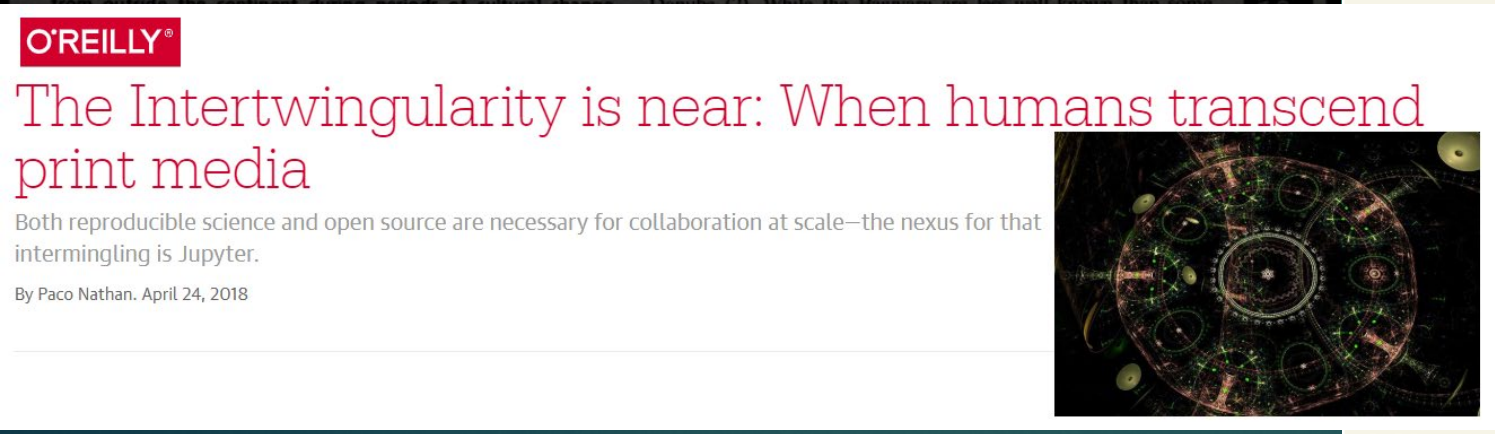
Analysis should be reproducible.


nature
International journal of science
Why Jupyter is data scientists' computational notebook of choice
An improved architecture and enthusiastic user base are driving uptake of the open-source web tool.
Jeffrey M. Perkel

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The Intertwingularity is near: When humans transcend print media
Both reproducible science and open source are necessary for collaboration at scale—the nexus for that intermingling is Jupyter.
By Paco Nathan. April 24, 2018

Introducing.....