Accelerate Your Data Science Delivery with Integrated Notebooks and IBM BigInsights

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What's changed in the world today?

A world awash with data

The re-invention of the world in code

The advent of cognitive computing

Yet only 15% of organizations have the capability to leverage data and advanced analytics across their organization.

HBR Insight Economy Study

Digital disruption is upon all of us … and it is aided by data!

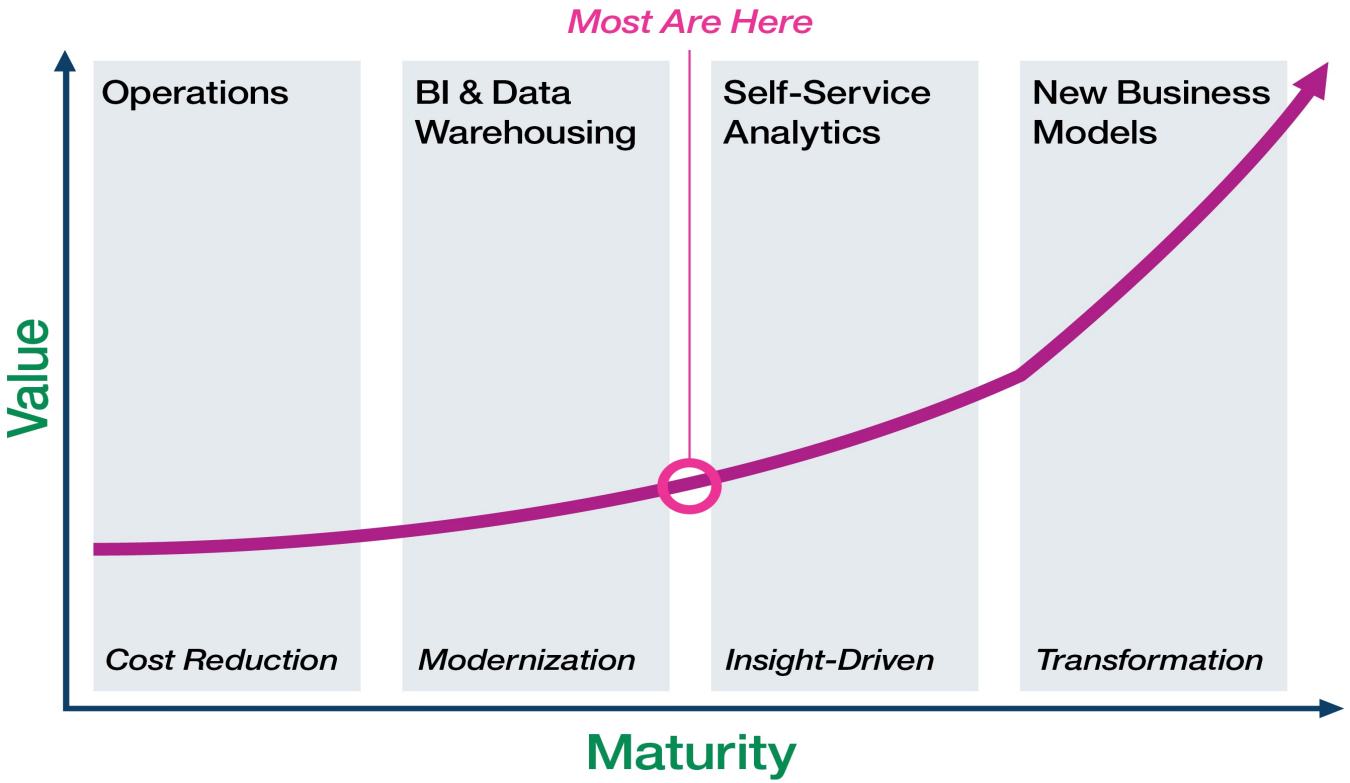
World's Largest Accommodations Company
Owns No Real Estate

World's Largest Taxi Company
Owns No Vehicles

World's Largest Retailer
Carries No Inventory

World's Largest Media Company
Creates No Content

Tools available till recently have been more focused on the initial phases of exploiting data



Data Science Life: Explore and Predict

1) Exploration: We don't have any special attribute we want to predict. Rather we want to understand the structure present in the data. Are there clusters? Non-obvious relationships?

- Also referred to as "unsupervised learning"
- E.g., K-means clustering

Use Cases -> Understanding categories of customers, cross-selling opportunities, etc…

2) Prediction: The data contains a particular attribute (called the target attribute) and we want to learn how the target attribute depends on the other attributes.

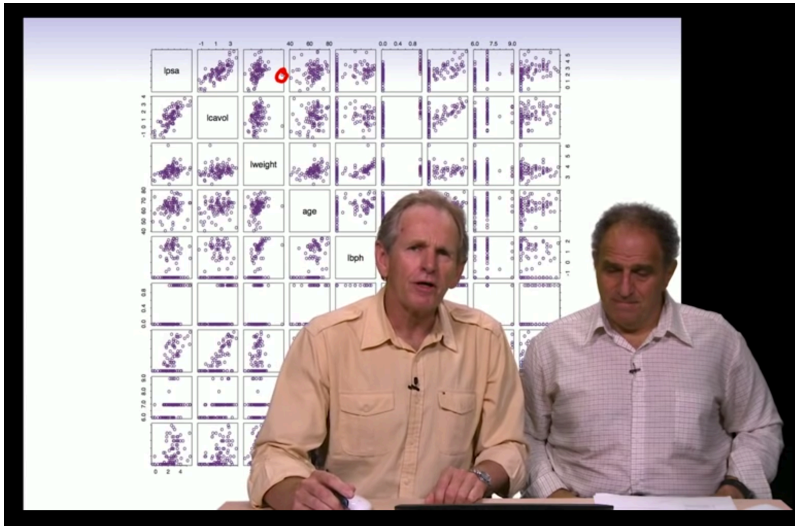
- Also referred to as "supervised learning"
- E.g., Support vector machines

Use Cases -> Building a model to predict customer churn, fraud, etc…

Visualizing data

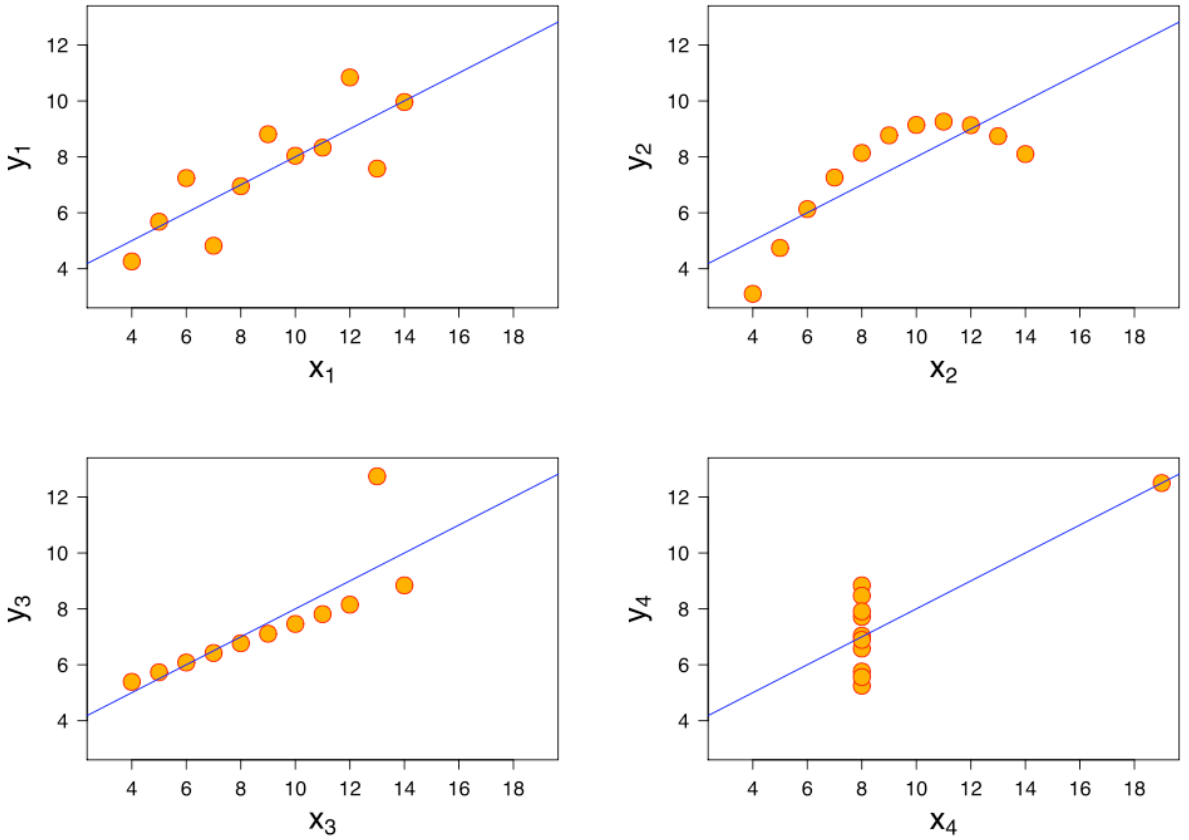
“The first thing to do when you get a set of data for analysis is not to run it through a fancy algorithm. Make some graphs, some plots. Look at the data..”

Robert Tibshirani FRSC
Professor in the Departments of Statistics and Health Research and Policy at Stanford University



Anscombe's Quartet

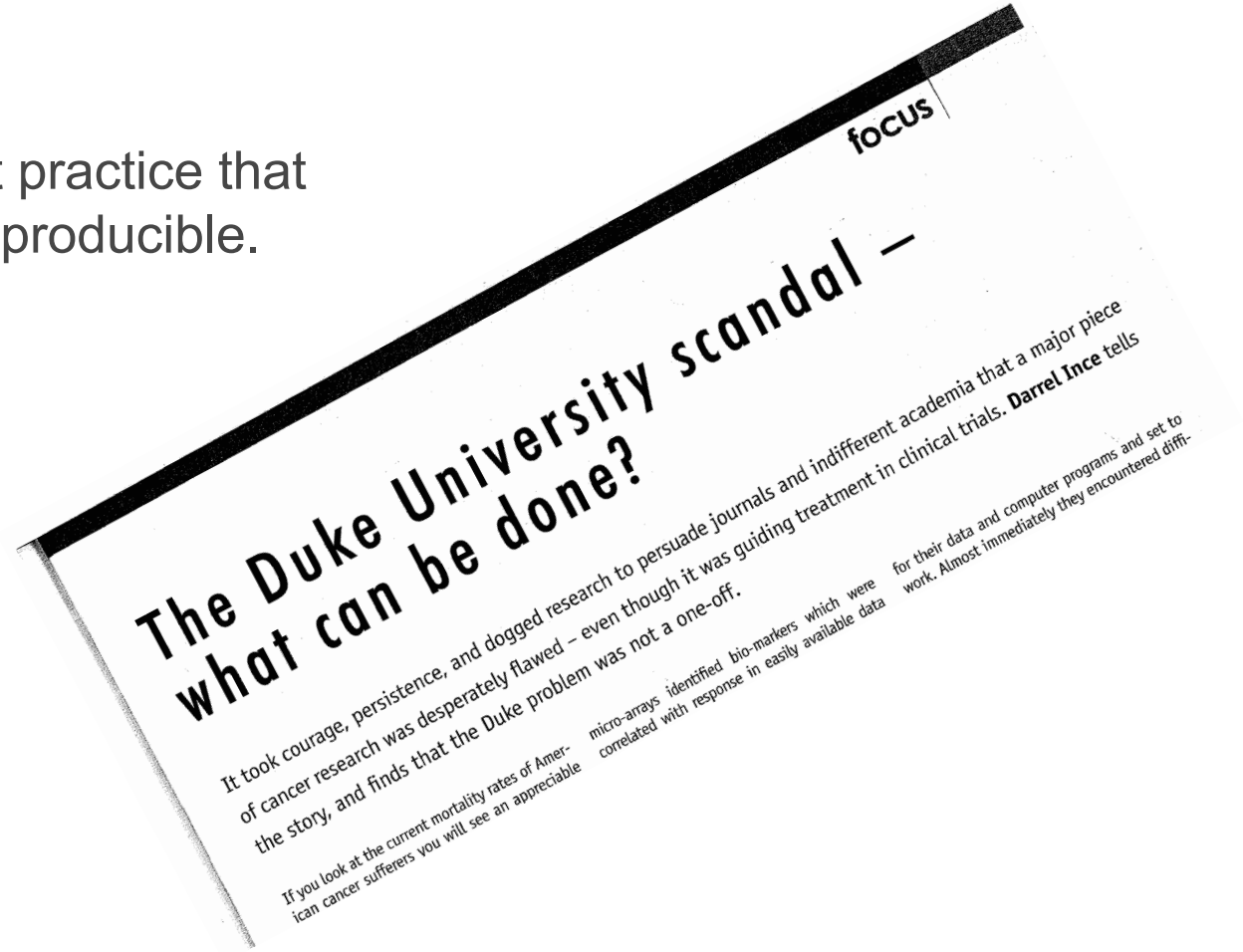
Four datasets with nearly identical statistical properties



Source: https://en.wikipedia.org/wiki/Anscombe's_quartet

Reproducible research

It is a recognised best practice that research should be reproducible.



focus

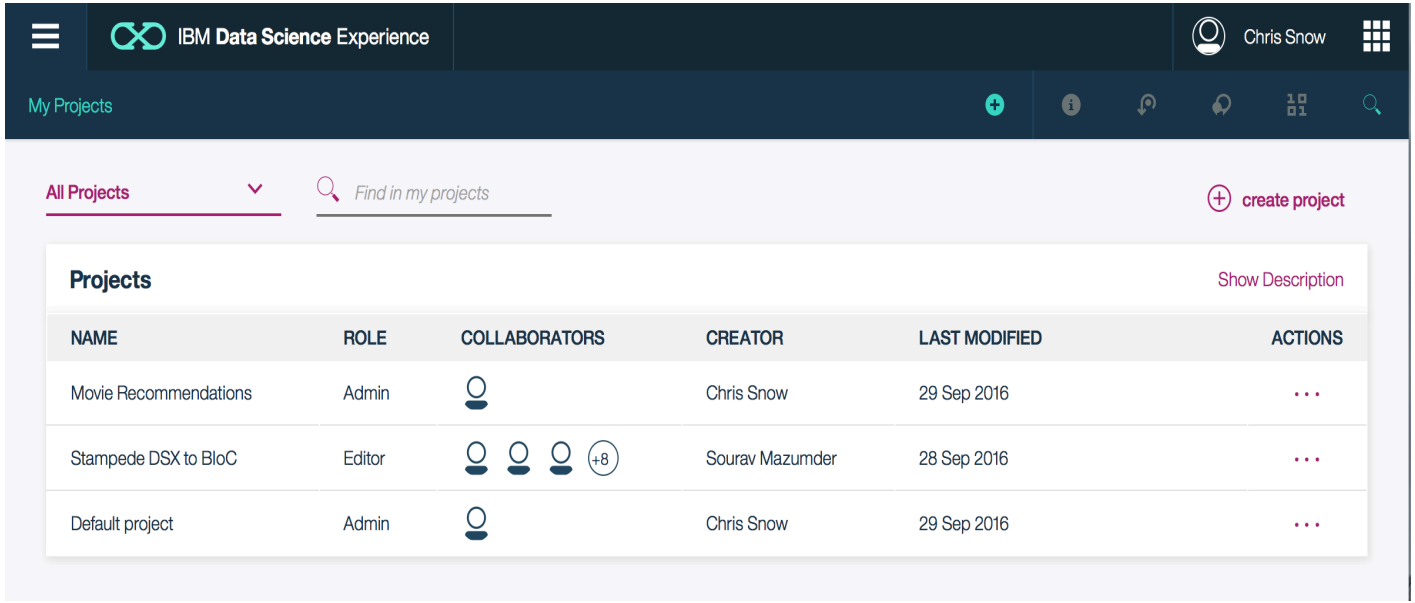
The Duke University scandal – what can be done?

It took courage, persistence, and dogged research to persuade journals and indifferent academia that a major piece of cancer research was desperately flawed – even though it was guiding treatment in clinical trials. **Darrel Ince** tells the story, and finds that the Duke problem was not a one-off.

If you look at the current mortality rates of American cancer sufferers you will see an appreciable micro-arrays identified bio-markers which were correlated with response in easily available data for their data and computer programs and set to work. Almost immediately they encountered diffi-

Essential collaboration

Work smarter using community, work faster with your team.



BigInsights provides options to suit business needs

Basic Plan

- IOP clusters within minutes
- Scale up or down based on need
- Separation of compute and storage
- Pay-as-you-go on an hourly basis

Target use cases:

- Applications development and testing
- Getting started with IOP

Basic Plan + value adds *

- IOP + BigInsights clusters within minutes
- Advanced analytics capabilities like Big SQL and Text Analytics
- Pay-as-you-go on an hourly basis
- Larger instances

Target use cases:

- Infusing advanced analytics capabilities at a low, entry price point

Enterprise Plan

- IOP + BigInsights clusters on bare metal nodes
- ISO / SOC2 / HIPAA compliance
- Dedicated clusters for performance & data privacy
- Available in multiple data centers
- Monthly subscription

Target use cases:

- Enterprise apps at production scale
- Advanced analytics use cases requiring dedicated resources
- Reserved capacity for continuous use

Enhanced capabilities, security and performance

**** Future offering***

Enter the Data Science Experience

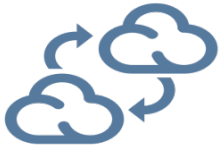
Currently in Beta

Learn

Built-in learning to get started or go the distance with advanced tutorials

Create

The best of open source and IBM value-add to create state-of-the-art data products



Collaborate

Community and social features that provide meaningful collaboration

Sign up for the beta here:
http://datascience.ibm.com

Demo

+

datascience.ibm.com

Demo

Movielens Data

The demo can be found here: https://github.com/snowch/demo_2710

a. Setup Data (SSH)

b. Import Data (WebHDFS)

f. Export Model (SCP)

g. Execute Model (SSH)

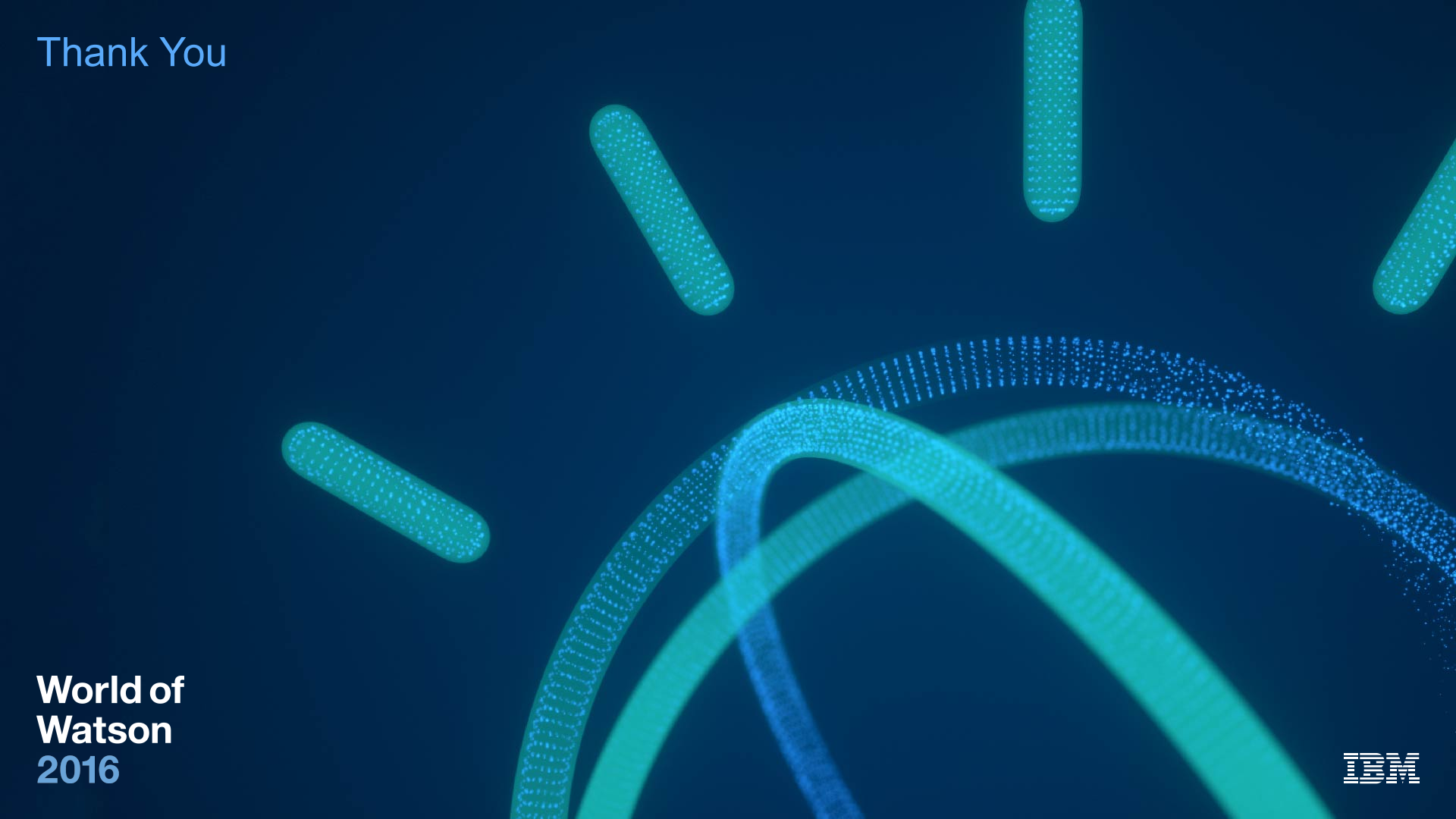
datascience.ibm.com

c. Explore

d. Train Model

e. Save Model

Thank You



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