

With Great Power Comes the Responsible Use of Metrics

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Topics

1. Where are we now?
2. The Responsible Metrics Movement
3. Supporting researchers with responsible metrics

1 Metrics today

Types of metric

Bibliometrics

Statistical analysis of outputs

Citation counts

H-Index

Journal Impact Factor

Eigenfactor

Altmetrics

Alternative metrics to judge new output types

Social media

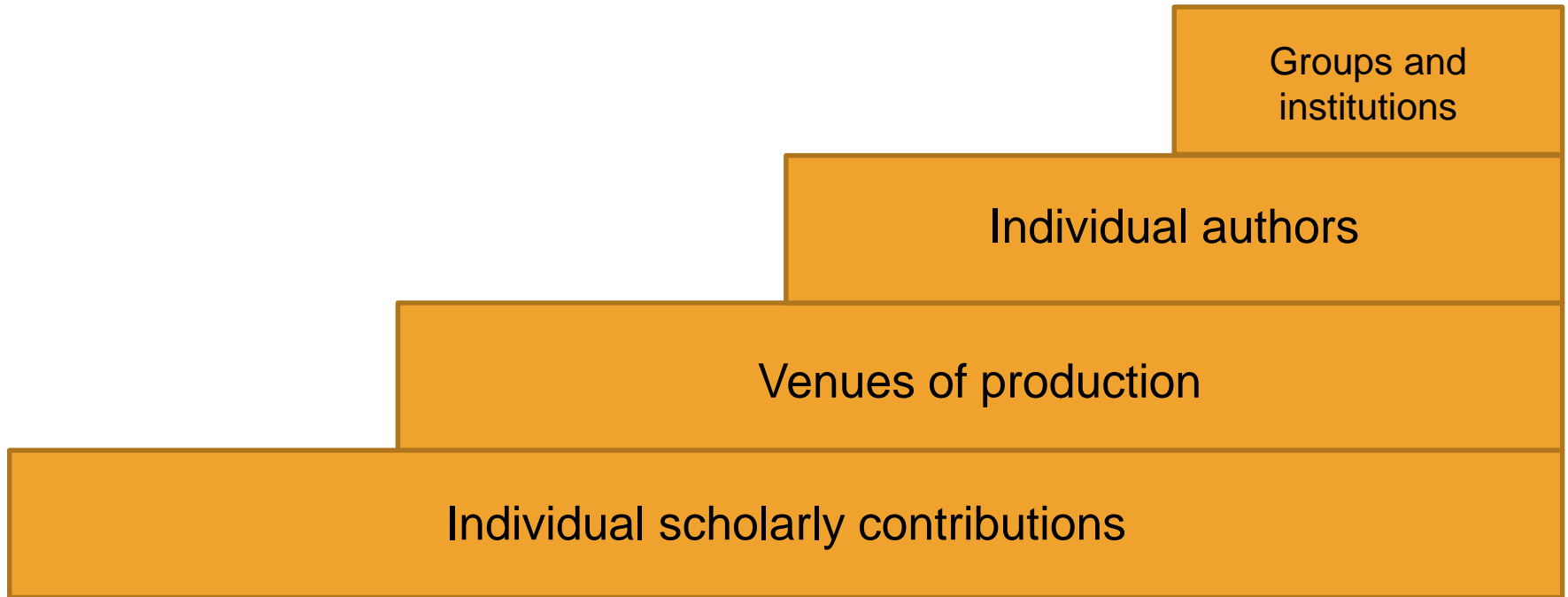
News stories

Public policy

Peer review

Patents

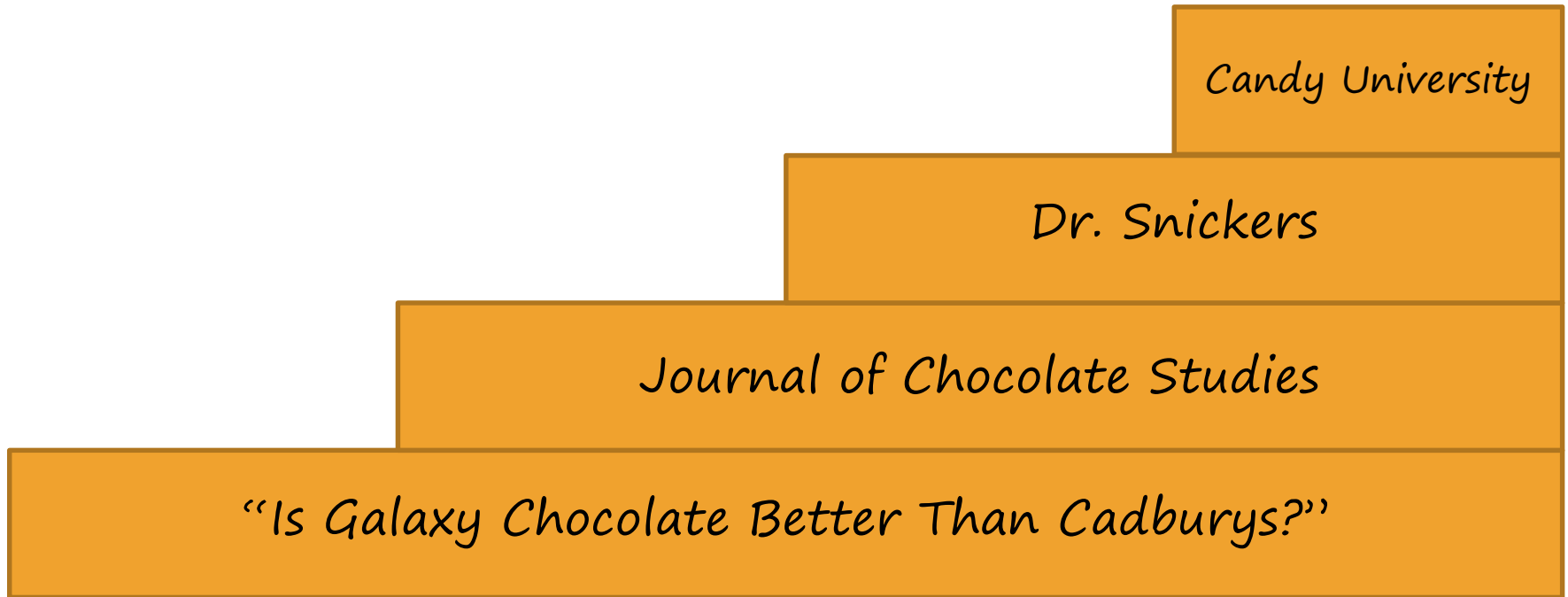
Levels of metric



Model adapted from *Meaningful Metrics* / Roemer & Borchardt. Licensed under a CC-BY-NC 4.0 license.



Levels of metric



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Using metrics



- Judging research quality
- Publishing decisions
- Performance reviews
- Career advancement

Metric limitations



Quantitative measures



Potential bias



Lack of consistency



Potential for gaming



Fit for purpose?

2

The Responsible Metrics Movement

DORA (2012)

Detail the criteria used to assess both researchers and their work

Reinforce the idea that it is the **quality** of the piece of research that is important as opposed to the metric score of the title that it's published in

Look at the **value and impact** of all research outputs

Review their use of metrics and use a **variety of measures** to assess researchers and their outputs

Leiden Manifesto (2015)

Quantitative evaluation should support **qualitative**, expert assessment

Measure performance against the **research missions** of the institution, group or researcher

Protect excellence in **locally** relevant research

Keep data collection and analytical processes open, **transparent** and simple

Allow those evaluated to **verify** data and analysis

Account for **variation** by field in publication and citation practices

Base assessment of individual researchers on a **qualitative judgement** of their portfolio

Avoid **misplaced concreteness** and false precision

Recognize the **systematic effects** of assessment and indicators

Scrutinize indicators regularly and update them

The Metric Tide (2015)

Robustness – metrics should be based on the best data available

Humility – both qualitative and quantitative measures should be used

Transparency – the methods used to calculate metrics should be open and transparent

Diversity – metrics need to take into account differences in career stage and discipline

Reflexivity – metrics should be responsive to change

Responsible metrics



- Quantitative and qualitative
- Openness
- Quality
- Range
- Review

3

Supporting researchers with responsible metrics

Supporting researchers



Practical support



Advice



Advocacy



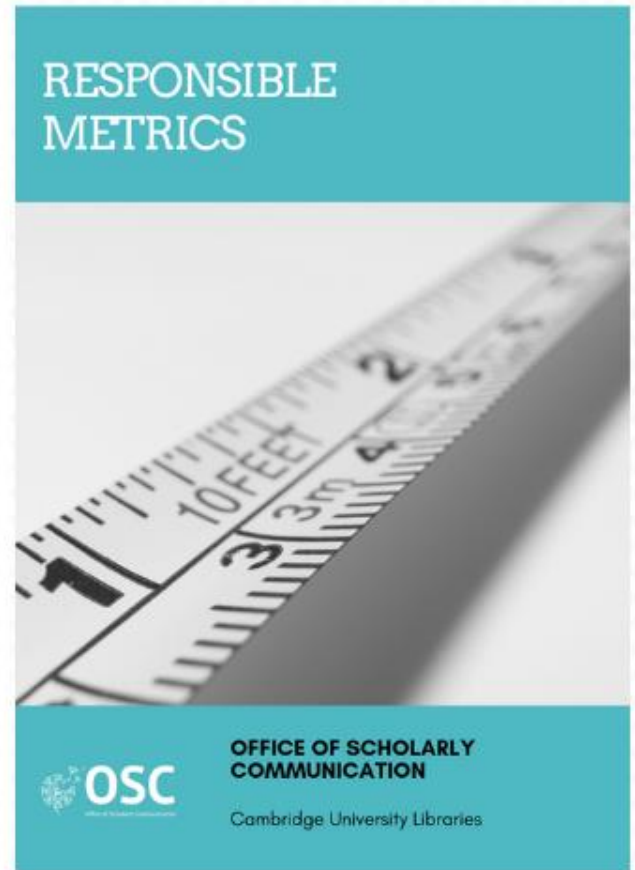
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THANKS FOR WATCHING