

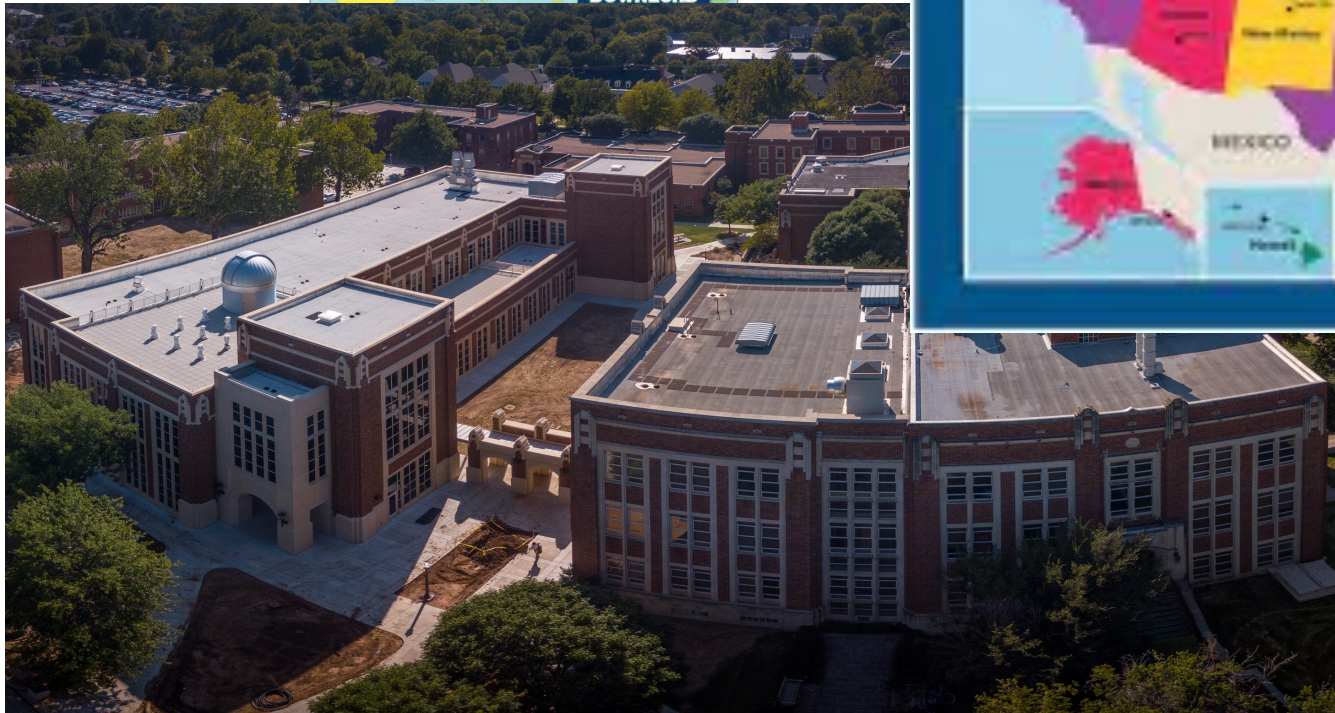
A scenic landscape photograph of a forested mountain area. In the foreground, a river flows over rocks, with a wooden bridge on the left. The middle ground is filled with dense evergreen trees. In the background, a rugged mountain peak with some snow is visible under a blue sky.

REU Luncheon

University of Oklahoma, Norman

Hiking near Benasque, Spain

Where Have I Been and Where Am I Now?



What You Might Or Might Not Know About Oklahoma




Eastern collared lizard (Oklahoma's state lizard).

Wichita Mountains Wildlife Refuge is the largest bison refuge managed by the U.S. Fish and Wildlife Service.





Ten Tallest Buildings in the World?

1. **Burj Khalifa**: Dubai, UAE - 828 meters (2,717 feet)
2. **Merdeka 118**: Kuala Lumpur, Malaysia - 678.9 meters (2,227 feet)
3. **Shanghai Tower**: Shanghai, China - 632 meters (2,073 feet)
4. **Makkah Royal Clock Tower**: Mecca, Saudi Arabia - 601 meters (1,972 feet)
5. **Ping An Finance Centre**: Shenzhen, China - 599 meters (1,965 feet)
6. **Lotte World Tower**: Seoul, South Korea - 555.7 meters (1,823 feet)
7. **One World Trade Center**: New York City, USA - 541.3 meters (1,776 feet)
8. **Guangzhou CTF Finance Centre**: Guangzhou, China - 530 meters (1,740 feet)
9. **Tianjin CTF Finance Centre**: Tianjin, China - 530 meters (1,740 feet)
10. **China Zun**: Beijing, China - 528 meters (1,732 feet) 

Publishing a Paper

Who has been involved in writing a paper?

Publishing a Paper

Who has been involved in writing a paper?

Who has been involved in writing a peer-reviewed research-based paper?

Publishing a Paper

Who has been involved in writing a paper?

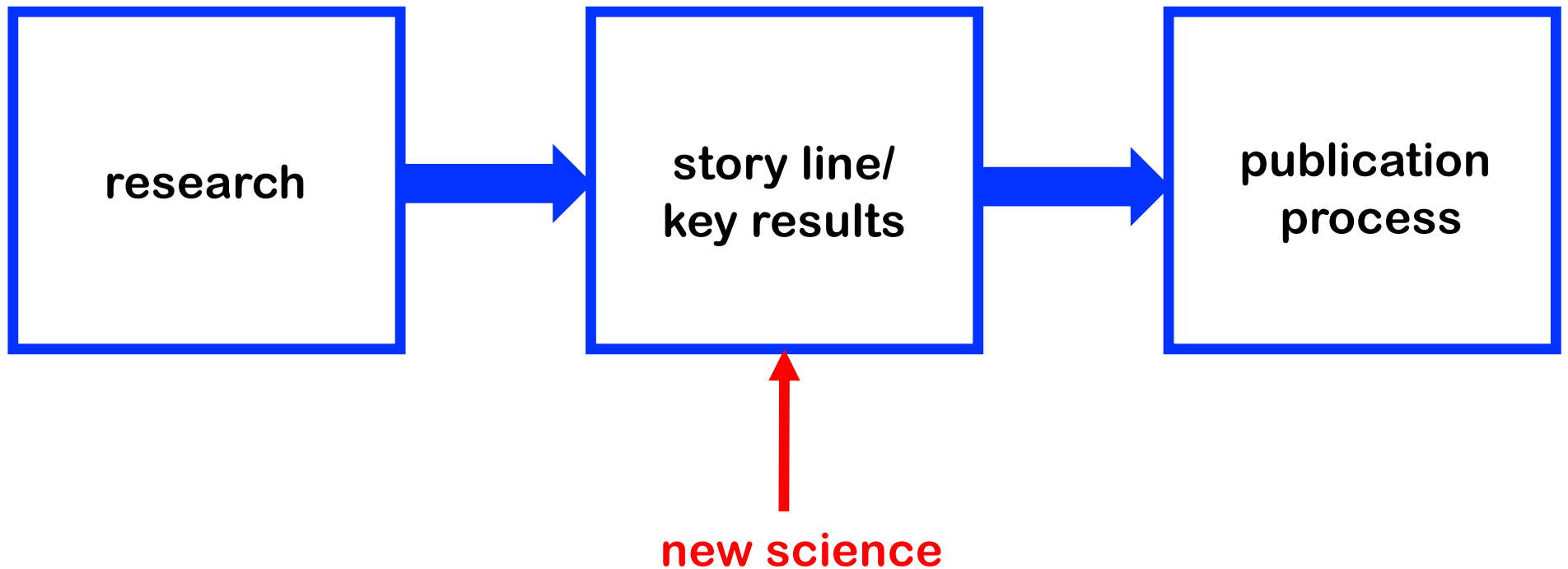
Who has been involved in writing a peer-reviewed research-based paper?

Who has been involved in doing research?

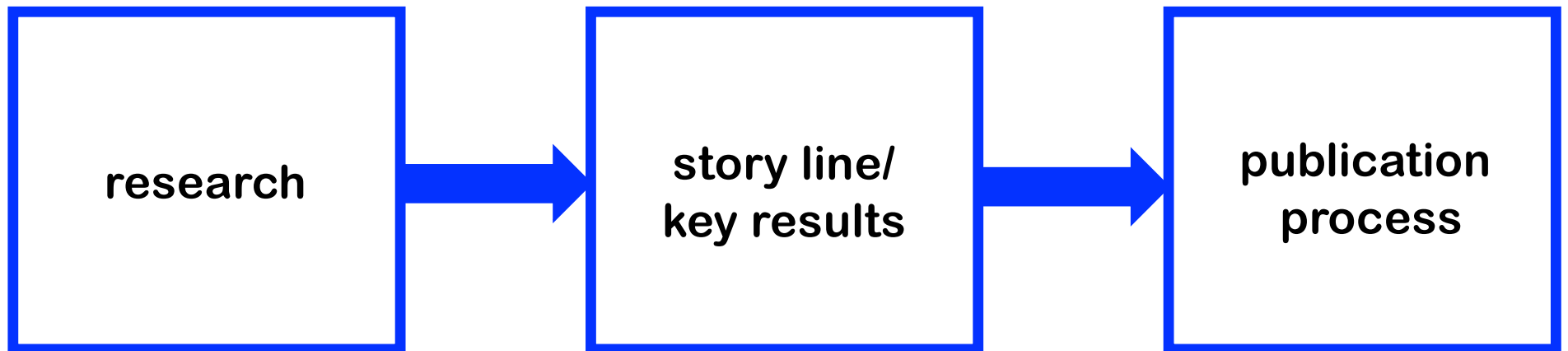
Class or Term Paper vs Research Paper

What's the difference?

Steps Involved



Steps Involved



performing the
experiment, theory,
simulation, data
analysis, coding,...



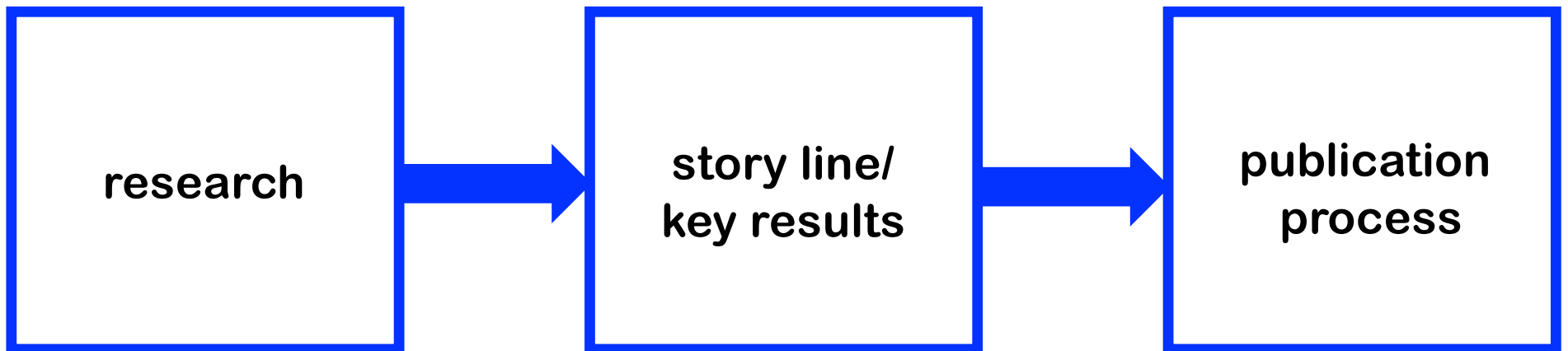






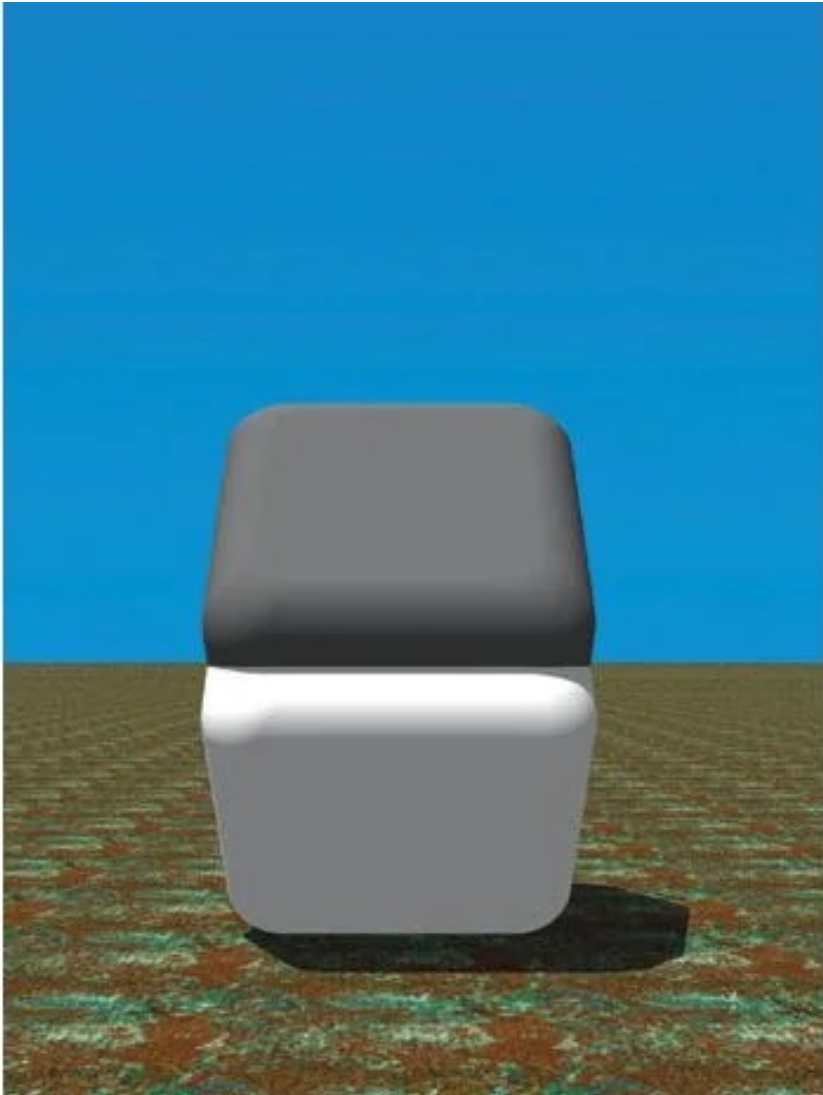
Steps Involved

double checking!



performing the
experiment, theory,
simulation, data
analysis, coding,...

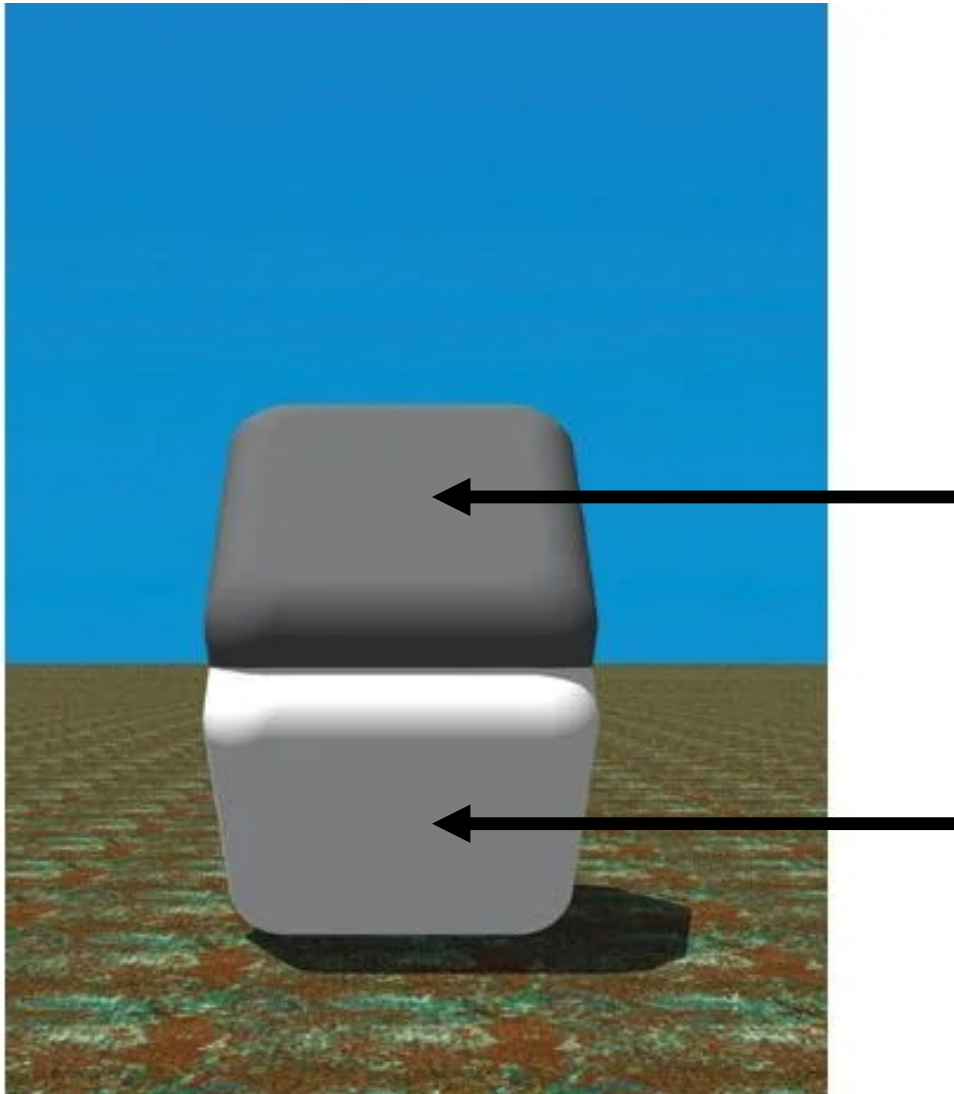
What Do You See?



What Do You See?

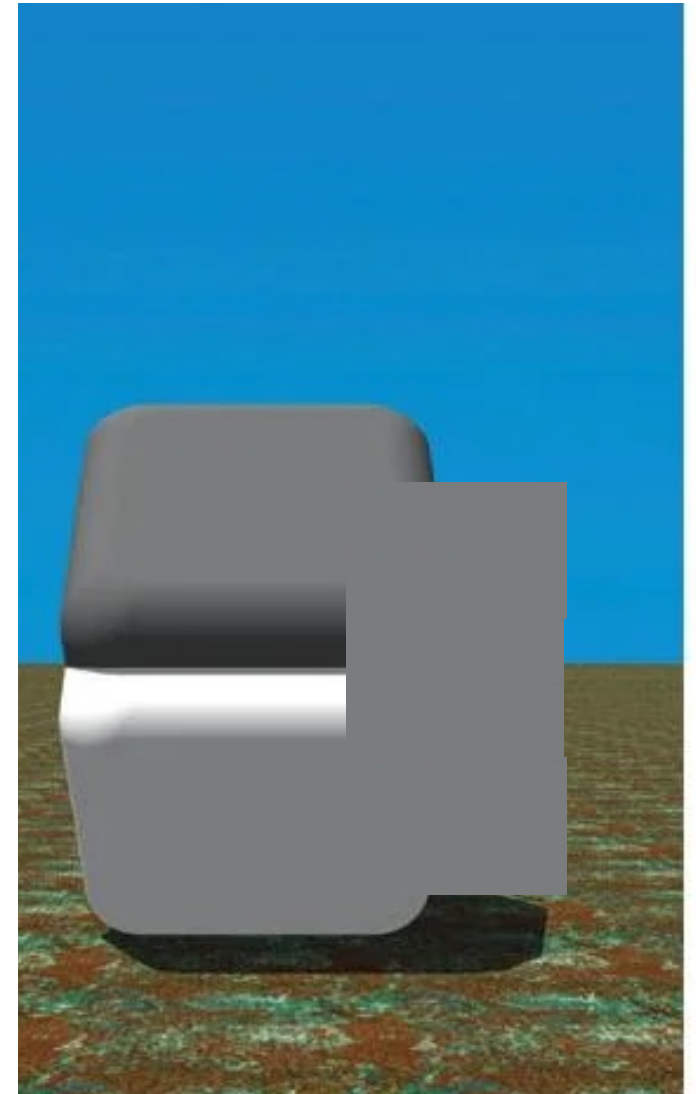
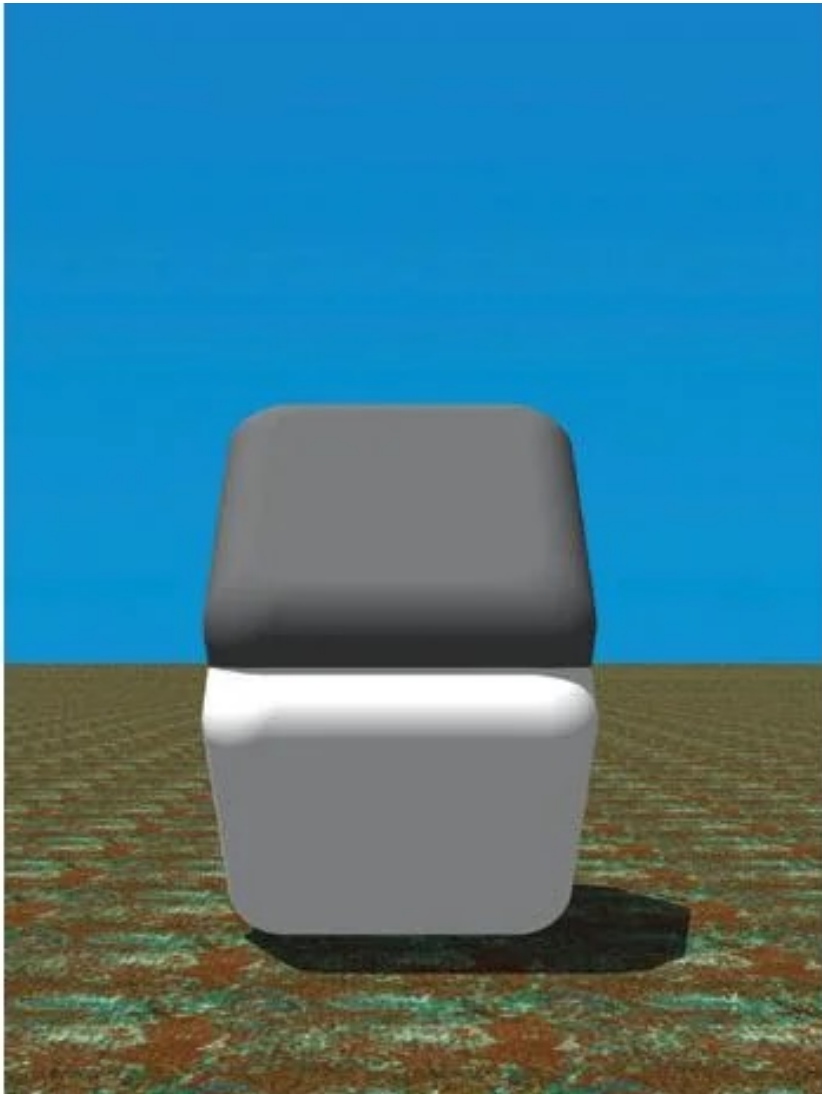


What Do You See?



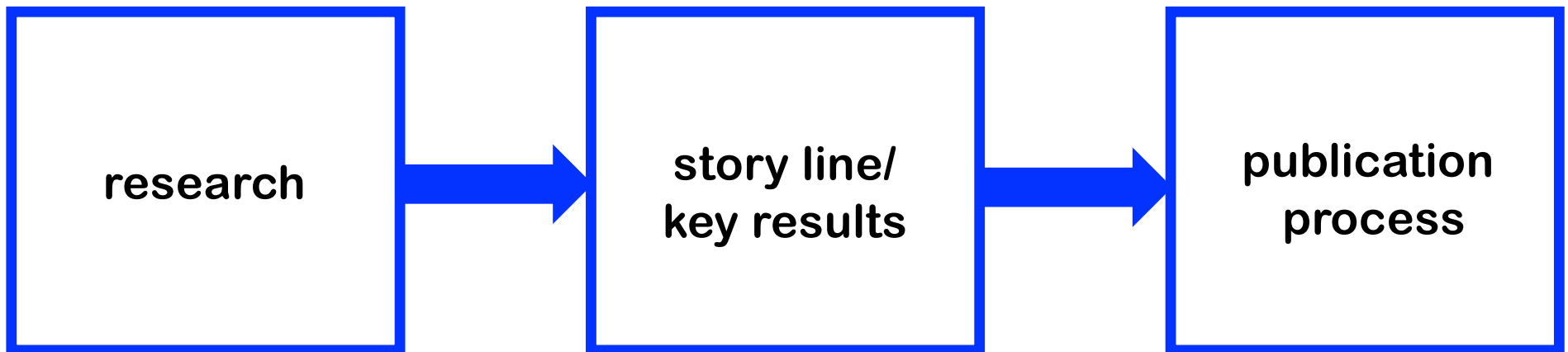
Look Carefully at Your Data!

From: <https://slate.com/technology/2013/12/optical-illusion-shades-of-gray.html>



Steps Involved

double checking!
documenting!



performing the
experiment, theory,
simulation, data
analysis, coding,...

Documenting Results

Good scientific practice:

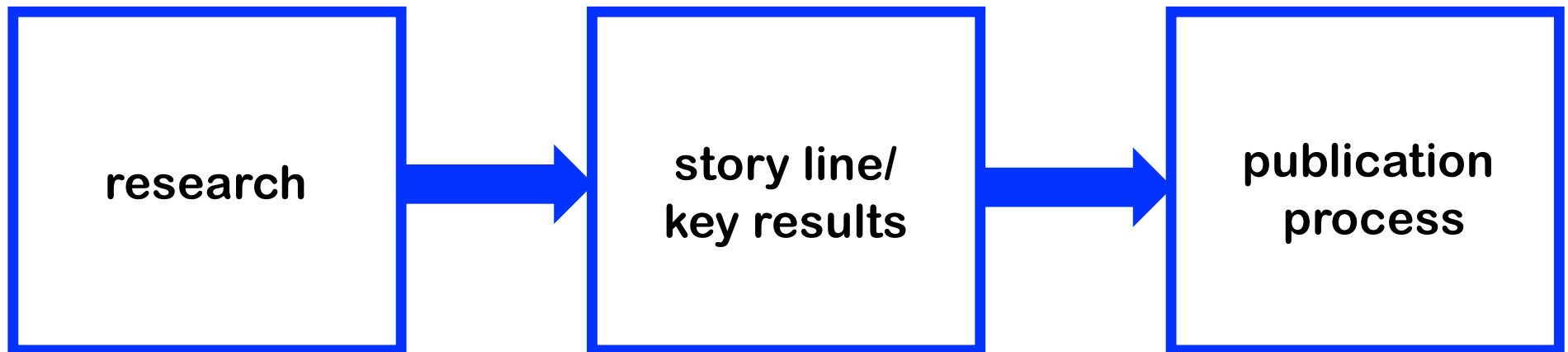
- You have a responsibility to “preserve” your discoveries/progress so that someone else can reproduce your data.
- Information that is required to repeat the experiment, simulation,... should be included in the paper. For example, figure captions need to have values of parameters, as appropriate.
- Advice of more experienced people is crucial.

Obligation to funding agencies.

Obligation to publisher.

Steps Involved

double checking!
documenting!



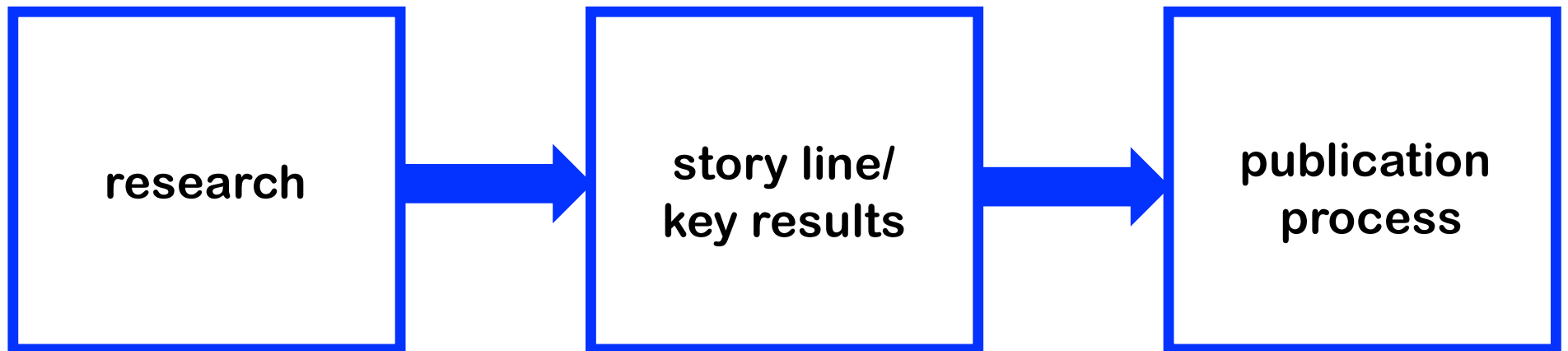
performing the
experiment, theory,
simulation, data
analysis, coding,...

giving talks.
receiving feedback.
discussing with people.
making convincing
figures.



Steps Involved

double checking!
documenting!



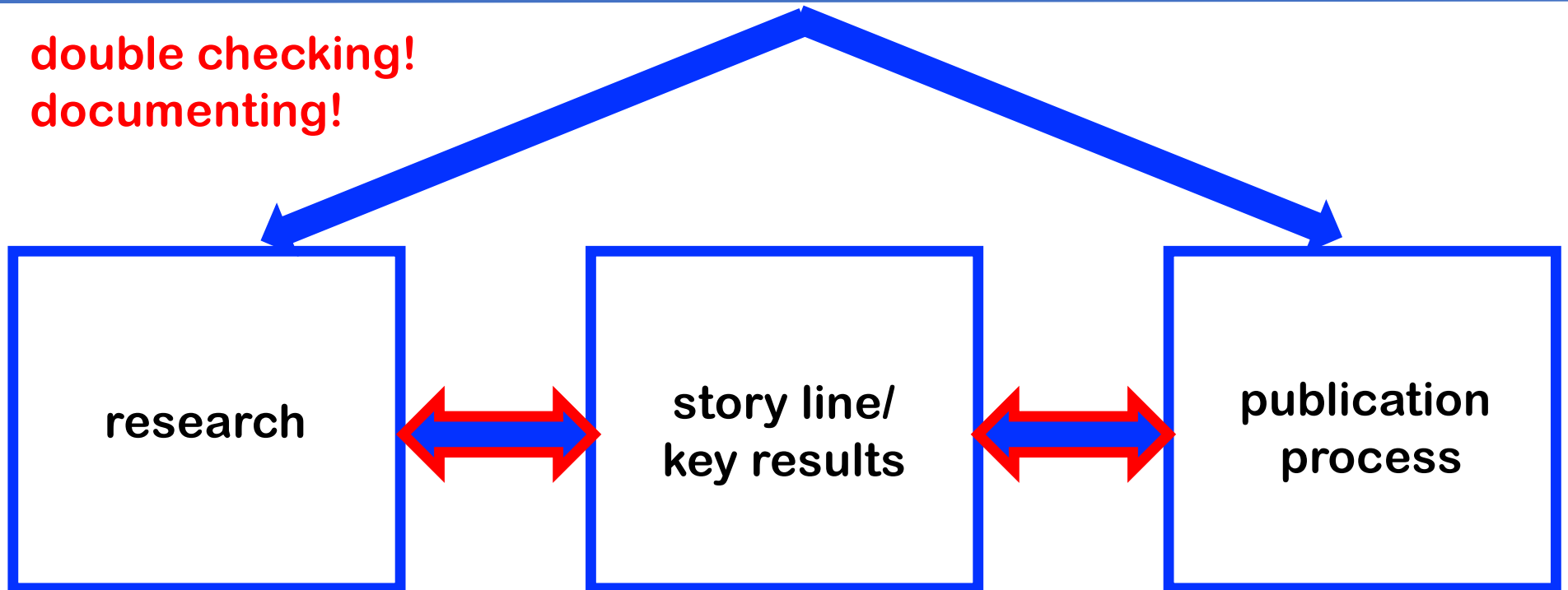
performing the
experiment, theory,
simulation, data
analysis, coding,...

giving talks.
receiving feedback.
discussing with people.
making convincing
figures.

writing (roughly,
takes just as long
as doing
research).

Steps Involved

double checking!
documenting!



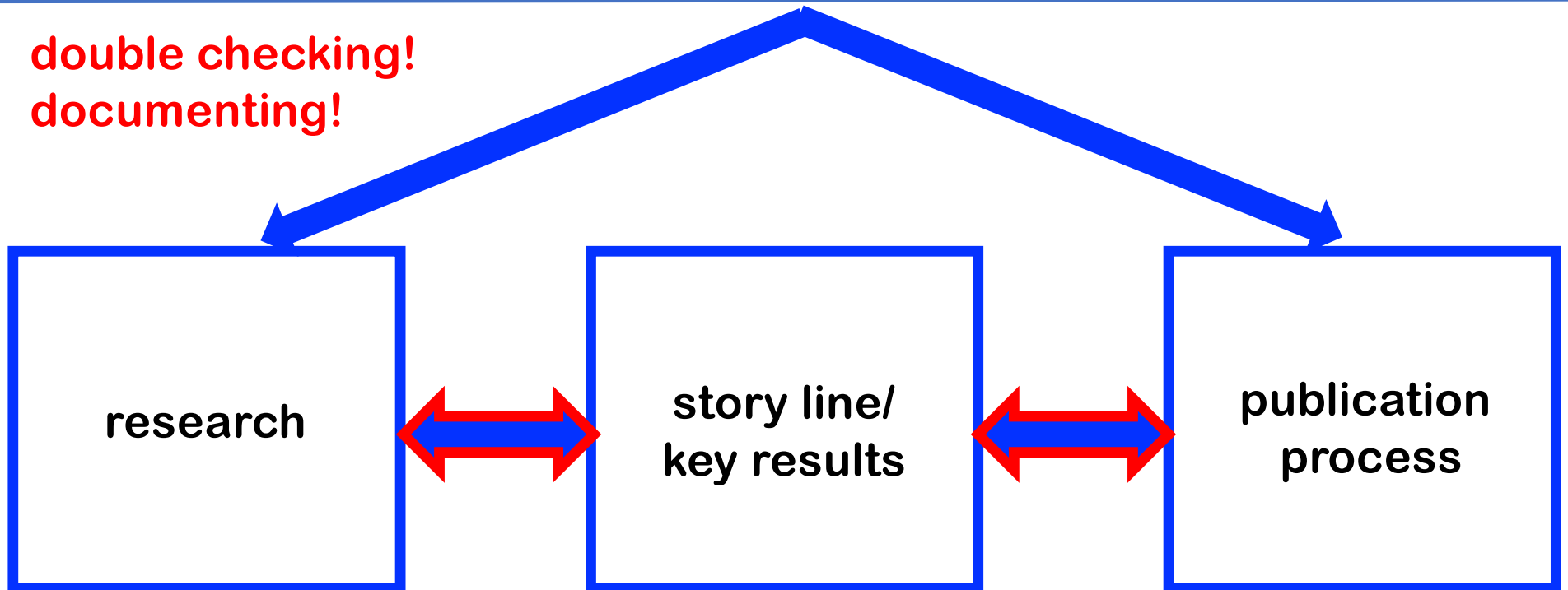
performing the
experiment, theory,
simulation, data
analysis, coding,...

giving talks.
receiving feedback.
discussing with people.
making convincing
figures.

writing (roughly,
takes just as long
as doing
research).

Steps Involved

double checking!
documenting!



research

story line/
key results

publication
process

performing the
experiment, theory,
simulation, data
analysis, coding,...

giving talks.
receiving feedback.
discussing with people.
making convincing
figures.

writing (roughly,
takes just as long
as doing
research).
submit to journal.

Review Process

Manuscripts are typically sent out to between one and three experts in the field.

Review process varies greatly by journal:

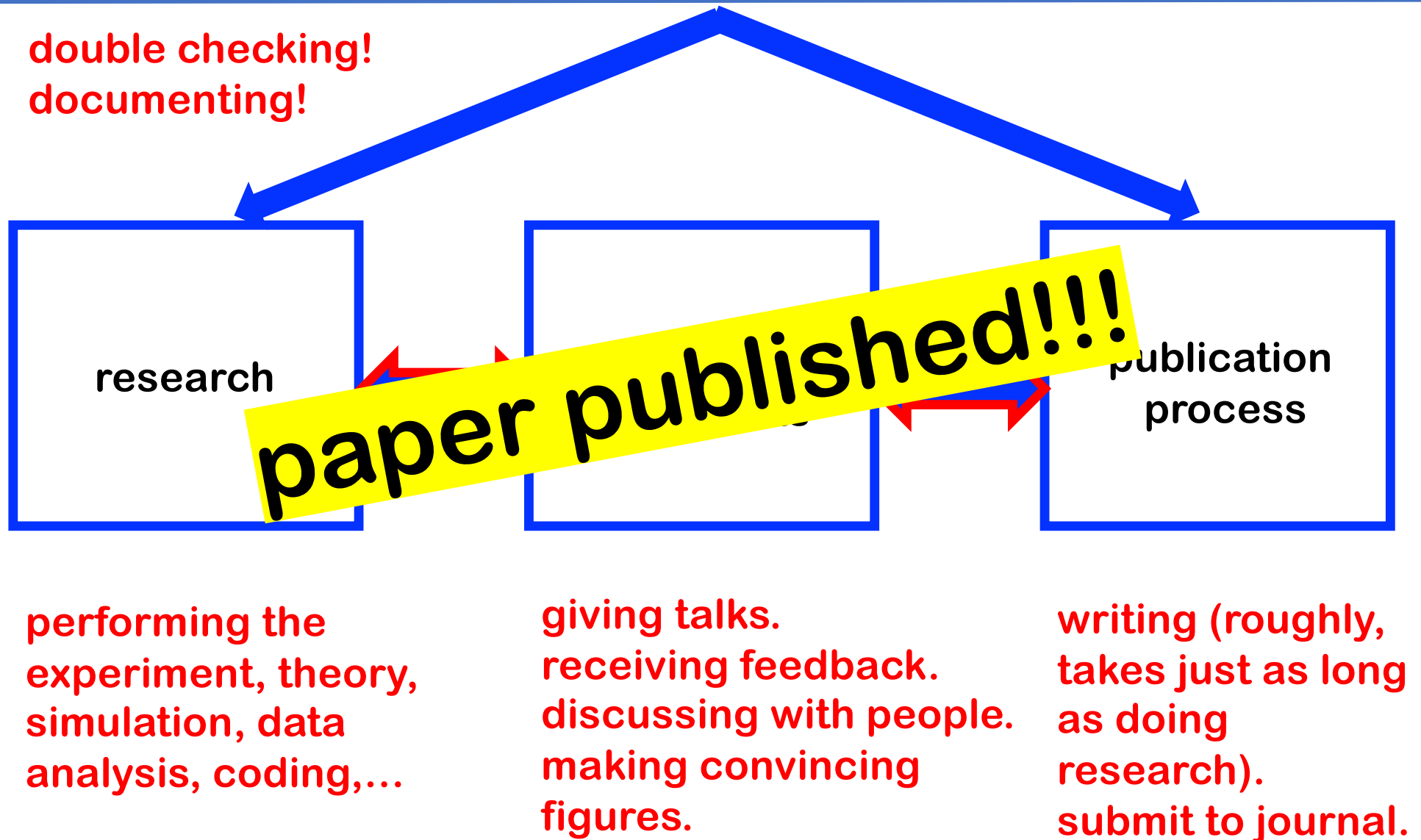
- Double-blind.
- Anonymous review.
- Non-anonymous review.
- Reviews made available/not made available.
- “Weight” of (expert) editors versus expert reviewers.

Review process takes between ~1-12 months.

Frequently, authors are given the opportunity to respond to referee comments and improve the manuscript.

- Better be criticized by your friends than the reviewers.

Steps Involved



Steps Involved

double checking!
documenting!

paper published!!!

remember: the process should be fun and
the joy lies in learning, gaining knowledge,
and disseminating knowledge!!!

performing the
experiment, theory,
simulation, data
analysis, coding,...

giving talks.
receiving feedback.
discussing with people.
making convincing
figures.

writing (roughly,
takes just as long
as doing
research).
submit to journal.



Any questions, comments, discussion?



What Do You See?

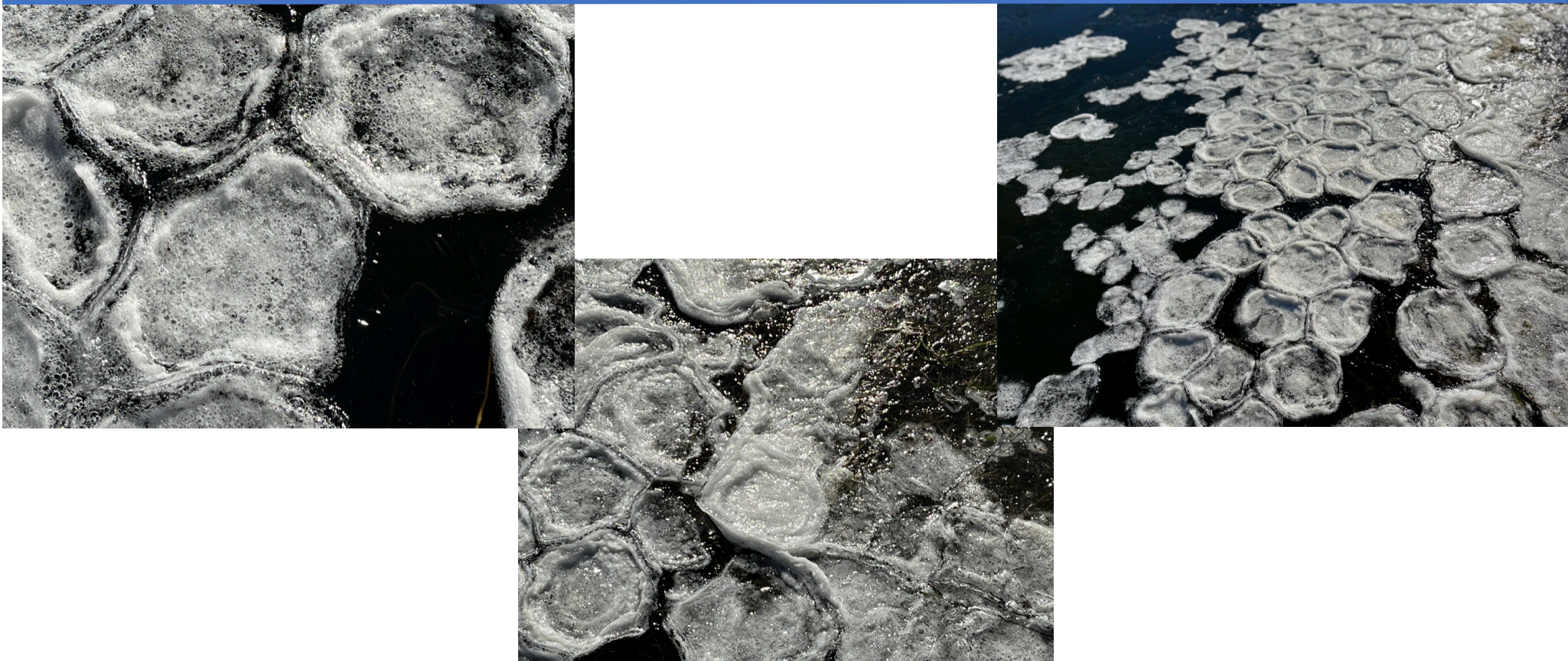


From:
<https://www.techeblog.com/ice-pancakes-why-scotland-uk/>

Ice pancakes recently showed up on the River Bladnoch in Galloway, Scotland due to the unexpected cold weather in the UK. They are normally found around Antarctica, Canada and most notably, Lake Michigan. For these to form, they require some specific weather conditions, such as the optimal temperature and in areas with a bit of wave action.

This phenomenon occurs on rivers when frozen foam on its surface gets trapped in a spiraling eddy current. As sections of this frozen foam hits these swirling discs, they form into these flat pancakes that continue to grow between 8" – 79". However, on open bodies of water, these pancakes form as surface ice gets broken up and waves cause the chunks to smash against each other.

Ice Pancakes in Oklahoma



What Do You See?

