

The Research Ethics Magazine

English edition • September 2023

Thumbs up from their own ranks s. 4

Special edition in English

Preprints:
Friend or foe?
s. 8

Co-authorship: Experts'
clear words of advice
s. 12

Evil is bursting
at the seams
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E

An independent source of news and debate

Man or mouse? That was the question on the cover of the very first edition of The Research Ethics Magazine more than 20 years ago.

In the magazine, readers were served the story of a Norwegian researcher who wanted to insert his own cell nuclei into mouse eggs – a form of cloning. The purpose was to study the development of stem cells. The plan sparked great debate about major questions like interbreeding, human cloning and the moral status of embryos. After a lengthy ethics assessment, the research group did not obtain pre-approval.

Such pre-approval of research is among the long series of topics that The Research Ethics Magazine has covered since this first issue in 2001. We aim to provide insight into issues related to ethics and integrity, including societal dimensions, in all research and in the entire research system.

The Research Ethics Magazine is published by the National Research Ethics Committees, who has the overall responsibility for the magazine. However, from the start, an editor in chief has had full responsibility over the editorial content and decisions. In the same way as trust in research is important, editorial independence helps enhancing public trust in the magazine and its content.

This is the first ever Research Ethics Magazine in English. The articles have been selected from the last four years' issues and translated. It contains tips on co-writing the right way, the advantages and disadvantages of preprints, and updates on repatriation of human remains. You can also read about the Stanford prison experiment from a new angle and perhaps be surprised

by Norway's extensive use of fish as test animals.

We aim to provide insight into issues related to ethics and integrity, including societal dimensions, in the entire research system.

Increasingly international

Even though we mainly write from a Norwegian perspective, the research and its ethics and integrity are international. Researchers are collaborating more across national borders, and in general, research projects are increasing in both size and complexity. The research has also become more important in areas such as policy-making and technology development, and thus also in everyday life.

By translating a small selection of the magazine's rich archive into English, we can reach more readers both in Norway and abroad. We believe that sharing knowledge and reflections creates awareness and stimulates debate.



Elin Fugelsnes
Elin Fugelsnes, editor



Foto: Shutterstock Editorial



Photo: Shutterstock



Photo: Stanford University

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In 2013, a coffin was flown from Norway to Mexico. Several thousand people and a sea of flowers from all over the world welcomed the 'Ape Woman', who was finally to be laid to rest.

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Are we not evil after all?

The two most famous social psychology experiments in history revealed the underlying evil of human beings – or did they? Several quarters now claim that the scientists who achieved world fame manipulated the results.

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The Research Ethics Magazine sheds light on research ethics issues through news and feature articles, debate and opinions, and regular columns.

The magazine aims to spread knowledge and stimulate debate in a broad target group, from researchers and students to authorities, the general public and the media.

The magazine is run by an Editor in Chief and published by the National Research Ethics Committees (NREC) in Norway.

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Subscription:
Subscriptions are free,
both digital and on print.
Go to www.forskningsetikk.no/en/

Design:
Aksell, adjusted in English by NREC

Cover photo: Shutterstock

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N-0153 Oslo
www.researchethics.no

The Research Ethics Magazine is member of The Norwegian Trade Press Association and follows The rights and duties of the editor and The Code of Ethics of the Norwegian Press.

Higher demand for prior approval

Norway has no system for prior approval for research in general. In recent years, several institutions have set up their own committees for this purpose.

BY ELIN FUGELSNES



Silje Endresen Reme is head of the Research Ethics committee at the Department of Psychology, UiO. Photo: Anders Bayer / OUS

More and more international funding sources, collaboration partners and publication channels are requiring approval for research on human subjects. This has led to frustration among researchers in Norway who find that their projects are not covered by the country's current system for the assessment of research.

The solution for many has been to draw inspiration from the US tradition of so-called institutional review boards (IRBs), which are separate bodies that have the authority to approve research at the relevant institution or faculty.

In the last five to six years, at least six such bodies have been created in Norway (see fact box), and other institutions are considering following suit. Several stakeholders believe that this would strengthen the institutions' efforts in research ethics.

Complicated publishing process

The Research Ethics Committee at the University of Oslo's Department of Psychology was set up around 2015.

According to the committee's initiator, Anne Inger Helmen Borge, the requirement from journals for ethical approval was the catalyst.

The current head of the committee, Silje Endresen Reme, notes that this is still one of the main reasons why researchers contact them. She has experienced first-hand that the road to international publication can be extra long and complicated without the right paperwork.

'The journals wondered why on earth I couldn't refer to an ethical assessment. So there's been a lot of toing and froing, and I've had to ask the Regional Committees for Medical and Health Research Ethics to write a report on how the system works in Norway.'

Narrow interpretation of the law

In the United States, most research involving human subjects requires a statutory assessment by an IRB prior to commencement. Consequently, almost all hospitals, universities and other

institutions that conduct research on people have an IRB.

In Norway, the approval system for research projects is built around seven Regional Committees for Medical and Health Research Ethics (REK). These committees assess all research projects covered by the Norwegian Health Research Act. Decisions by REK can be appealed to the National Committee for Medical and Health Research (NEM).

In addition, there are several advisory bodies, but these do not have the authority to approve or reject a project.

In the last decade, Norwegian researchers, including Silje Endresen Reme, have expressed their frustration at much of the research on human subjects falling outside the REK's remit. The criticism has mainly related to what they consider to be a narrow interpretation of the Health Research Act by REK. The Act targets medical and health research where the aim is to generate new knowledge about health and disease – but what exactly constitutes new knowledge, and what is health and disease?

'I have done a lot of research on work and mental health. Rather annoyingly, this has always fallen outside REK's mandate. Even where a project has involved large volumes of health data and the examination of vulnerable hospital patients, our research has been rejected because its focus is on work', says Reme.



Jostein Hallén was skeptical of an internal approval committee at the Norwegian School of Sport Sciences (NIH). Now he is satisfied with the solution.
Photo: Lisbet Jæhre / NIH

Risky research

In 2014, Professor Jostein Hallén from the Norwegian School of Sport Sciences expressed concern that sports research had fallen into an ethical vacuum, and that REK would no longer even give it consideration. This served as a barrier to publication. Hallén called for new laws and new national committees for projects that were not encompassed by the existing research ethics committees.

Then, in 2017, new legislation on research ethics came into effect. However, it was far from the solution Hallén had been hoping for.

‘The law is unsatisfactory,’ he says.

The Research Ethics Act imposes requirements on institutions in relation to training in and awareness of recognised research ethics norms. Hallén sees this as a positive development, but thinks that the Act is otherwise far too focussed on dishonesty in research. He also thinks the new legislation provides insufficient guidance on the practical application of research ethics.

He notes that, in contrast, the Health Research Act contains numerous important details and points of clarification for

areas in which clarity is crucial, such as the sharing of data and the information provided to participants.

‘This Act does not apply to us for the most part – but we comply with it nonetheless.’

Hallén explains that many of the Norwegian School of Sport Sciences’ projects concern physical activity in the context of health and disease, and often involve vulnerable groups. A sports researcher can, for example, take a muscle test and insert venous catheters in participants who will then cycle until they are exhausted. ‘Some of what we do here can be much more of a strain, both mentally and physically, than the work of health research institutions,’ the professor points out.

Preventing serious non-compliance

The Norwegian School of Sport Sciences dealt with the rejection by REK in the same way as the Department of Psychology in Oslo: by creating its own internal approval body.

Hallén was initially sceptical about such a solution, partly because he feared that the ethical assessment would not be independent. Now, five years since its inception, he

Internal approval

The Research Ethics Magazine has identified six local bodies for the approval of research ethics. Other institutions may also have similar arrangements.

- Norwegian School of Economics (NHH): Institutional Review Board
- Norwegian School of Sport Sciences (NIH): Ethics Committee
- Faculty of Business Administration and Social Sciences, Western Norway University of Applied Sciences (HVL): Research Ethics Committee
- Faculty of Education, Arts and Sports, HVL: Research Ethics Committee
- Department of Psychology, University of Oslo: Research Ethics Committee
- BI Norwegian Business School: Ethics Review Board

All of these bodies focus on research on human subjects, but with different stipulations. Some are limited to, for example, projects that may entail a risk of injury or strain on the participants.

Each institution has its own rules on whether a research ethics assessment is voluntary or compulsory.

The scope of the assessment varies from project to project.

is pleased with the work of the committee. He himself has been a member of the committee and used it actively.

The committee resolves the challenges of the criteria set by journals. But perhaps even more importantly, according to the professor:

‘It serves as a double check for researchers, especially when it comes to how we inform the participants. How the participants are informed is one of the key aspects of ethics in research on people, coupled with the fact that they should not be exposed to unnecessary risk.’

The journals wondered why on earth I couldn't refer to an ethical assessment.

Silje Endresen Reme

The work with the committee has given a boost in terms of the overall awareness of research ethics.

Ingrid H.G. Østensen

Social inequality

It is perhaps not surprising that such bodies are set up by research communities whose activities are almost, but not quite, covered by the Health Research Act and the Research Ethics Committees. However, they are also seen in other areas with a strong element of social research, such as economics.

The Norwegian School of Economics (NHH) has such a committee, and its origins stem from a group of researchers seeking to find solutions to social inequality – namely the Center for Experimental Research on Fairness, Inequality and Rationality (FAIR).

‘We are a centre for experimental research and as such have direct contact with study participants. It’s therefore particularly important for us to safeguard their integrity and interests,’ explains Erik Øiolf Sørensen.

Sørensen is a researcher at FAIR and was one of those who initiated the establish-

ment of an IRB when the centre opened in 2017.

‘We wanted to ensure a high ethical standard, in the same way that we try to maintain a high standard in relation to other methodological matters. The IRB application process is an opportunity to initiate discussions about what is good, right and necessary.’

Sørensen and his colleagues also find that more and more journals and international partners want to see references to an IRB assessment.

‘It’s easier for us to satisfy such expectations now, but this was of secondary importance to us. I have also never heard of anyone being refused permission to publish due to the absence of a norm for IRBs at Norwegian institutions,’ he points out.

Several sources that the Research Ethics Magazine has spoken to emphasise that this can be a positive development for research ethics in general. One such source is Ingrid H.G. Østensen, head of the secretariat for the Ethics Review Board at BI Norwegian Business School.

‘The work with the committee has given a boost in terms of the overall awareness of research ethics,’ she states.

High demand

Many committees are also experiencing a high demand. The Department of Psychology’s committee has received 24 applications this year to date. Other faculties and departments have also contacted them, but the committee has had to turn them away due to resource considerations.

Tore Nilssen is research dean at the Faculty of Social Sciences, which the Department of Psychology is affiliated



Committee leader at NHH, Lars Jacob Tynes Pedersen, wants to avoid unnecessary bureaucratisation. Photo: Ingunn Gjerde / NHH

with. Nilssen is aware that several research groups at the faculty are interested in this topic. He himself is not convinced that everyone needs such a committee, and he certainly does not want to force it on anyone.

‘I think the initiative must come from academia; from individual institutes or research communities. I’m too high up on the management side to make such a decision, but I can certainly facilitate the outcome. We will try to start a discussion,’ he says.

At Western Norway University of Applied Sciences (HVL), a large project dealing with the organisation of research ethics is now underway. The project is a response to the criticism levelled at higher education institutions in 2021 by the Office of the Auditor General of Norway for having inadequate systems for safeguarding research ethics.

Anne-Mette Somby, head of research ethics at HVL, notes that two faculties have already established their own research ethics committees. Whether all faculties at HVL should have an approval committee is a pertinent but as yet unanswered question.

‘In the project, we want the faculties to have autonomy when it comes to finding



Research dean Tore Nilssen will not pressure anyone to set up a committee. Photo: UiO

solutions that are suitable for their academic environment', she says.

The School of Business Economics at the Norwegian University of Life Sciences is one of the institutions following developments and hoping that the university will soon appoint its own committee for the prior approval of research.

Avoiding the red tape

Lars Jacob Tynes Pedersen heads the committee at NHH. He believes it is important to stress that contacting the committee is voluntary. The extent of application processing also varies from project to project.

'This should not entail the unnecessary bureaucratisation we are seeing in the United States. It must be driven by demand, and not thrust down people's throats.'

'Do you think that, in the long term, such arrangements could lead to it becoming mandatory for institutions to have their own ethical approval committees?'

'I would turn that on its head and say that it's actually a result of trends we are seeing internationally, and to an extent nationally, with various requirements for explaining the handling of data and research ethics. These requirements exist regardless of what we choose to do. If anything, we are perhaps slightly ahead of the curve.'

Erik Øiolf Sørensen supports Pedersen's view.

'I think it's strange that it's not even more widespread', he says. fra forsker Erik Øiolf Sørensen.

Maintains call for new law

Jostein Hallén at the Norwegian School of Sport Sciences does not want to leave the

question to be settled by the individual institutions – he wants the authorities to remain involved. He would like to see a separate law which is almost an exact replica of the Health Research Act, but aimed at all research on human subjects.

'The legislation should stipulate that no institution can conduct research on people without first undergoing an independent ethical assessment', he says.

He is not quite clear on exactly what requirements should be set for the organisation of an ethical assessment. However, he is convinced that it will take very little to create a workable piece of legislation that does not trigger complaints about complicating the situation.

'On the contrary, it would be a law that could be used to raise awareness in the context of both teaching and research – and that would make Norway a better place for research participants', he believes.

First published in Norwegian on 11 October 2022.

No legal barrier

According to the Ministry of Education and Research, the University and University Colleges Act allows higher education institutions to set up their own committees to safeguard research ethics.

The Research Ethics Magazine put several questions to the Ministry, including in relation to knowledge about institutions setting up their own approval bodies and any response to this. We also asked whether the Ministry envisages alternative solutions.

In an e-mail, the Ministry stated that researchers and research institutions have a statutory responsibility to ensure that all research is conducted in accordance with recognised research ethics norms.

The Ministry added the following: 'We also have academically independent ethics

committees that advise and draw up guidelines for good research ethics. However, the University and University Colleges Act also provides for higher education institutions to set up their own committees to safeguard research ethics.' The Ministry stipulates that this must take place within the legislative framework.

Various possible solutions

The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH) and the National Committee for Research Ethics in Science

and Technology (NENT) are two of the independent ethics committees referred to by the Ministry. The committees' secretariat heads say that they regularly receive requests for approval of projects.

'But we can only advise, not grant approval', points out Vidar Enebakk from NESH.

Like the Ministry, the secretariat heads note that the research institutions have overall responsibility for ethics. There is therefore no national control function in these areas.

'The institutions themselves must devise procedures for dealing with this responsibility. Establishing an IRB could be one of several possible solutions', says Thomas Østerhaug from NENT.

Nevertheless, FEK recognises the need to assist the institutions and work on a guide that outlines the different ways in which the institutions can fulfill their responsibilities.



Journal editor:

– A lie can travel around the world in a few hours

Publishing preliminary findings can lead to researchers making important corrections. But credibility is compromised when the scope explodes and incomplete research is spread in all channels.

Posting research online before it is peer reviewed is nothing new, but in the field of medicine, this practice only started about five years ago. The volume increased rapidly with the pandemic: according to a review published on the website github.com by librarians Nicholas Fraser and Bianca Kramer, more than 50,000 preprints about COVID-19 were posted online in the period January to May 2020.

Alarm bells are ringing. Is the credibility of research at risk?

'It's possible that preprints can compromise credibility. There is limited quality control, and it can be difficult for lay people to understand the difference between a preprint and a peer-reviewed article', says Daniel Quintana, researcher at the Department of Psychology, University of Oslo.

However, he believes that the advantages outweigh the disadvantages. He himself is an avid user of preprint platforms: he posts drafts of research articles, receives feedback, makes corrections and then reposts.

'Preprints have really improved my work and workflow.'

Kerfuffle over vitamin D

Preprint platforms are websites where researchers can post their work before it has been peer-reviewed. Some of the platforms are linked to journals, such as The Lancet's 'Preprints with The Lancet'.

The problems arise when incomplete studies are taken out of context, which is exactly what happened with a study that was published in Preprints with The Lancet in the winter of 2021. The article claimed that treating COVID-19 patients with activated vitamin D (caldifediol) could reduce the number of deaths by 60% and the number requiring intensive care by 80%.

David Davis, a member of the British parliament, described this study as 'very important' in a Twitter post. In a later Tweet, he called on the UK to immediately start using this medicine. The study was widely reported internationally, including by the national Norwegian broadcaster, NRK.

However, the comments field on the preprint platform was quickly bombarded with critical questions, particularly about whether this was really a randomised trial as claimed by the researchers. After an investigation, the journal decided to remove the article from its website and post an explanation.

The study was also submitted to The Lancet for peer review, but was rejected.

Still being shared

John McConnell, editor of The Lancet Infectious Diseases, discussed the episode at the World Conference on Research Integrity in June.

'Although we have removed the study, it continues to attract attention. People are still re-tweeting David Davis' original Twitter post. The full-text version of the study has been viewed nearly 160,000 times, and the study continues to receive media coverage', McConnell said.

He went on to say that, by June, the link to the study had been tweeted or re-tweeted nearly 26,000 times. It had also been referred to as 'published in The Lancet', when in reality The Lancet had not carried out any quality control beforehand.

'It is said that a lie can travel around the world in a few hours while the truth is still lacing up its boots. I think we've seen a lot of that over the last 18 months', McConnell said.

Both McConnell and Daniel Quintana emphasise that even a peer review does not provide any guarantee.

'A poorly peer-reviewed study can create even more problems for the credibility of research in the long term', Quintana believes.

However, McConnell notes that preprints exacerbate the problem. During the conference, he questioned whether the preprint platforms will survive the pandemic.

No control over proliferation

Ragnhild Ørstavik, assistant editor-in-chief of the Journal of the Norwegian Medical Association, is also concerned. She points out that the intention with preprints was for the discussion to take place on the preprint platforms.

'But much of the discussion has now moved to social media, where you don't have any control over the proliferation of

research results. In addition, the mainstream media select items from the preprint platforms and publish them as news.

'How can we counter this?'

'I think we need to act before the results have spread. It must be made more apparent that these results are more uncertain than others.'

She believes that whoever conveys the news also has a responsibility to convey the uncertainty – if the news is to be conveyed at all. She also believes that the scientific method and quality assurance of research should be taught at school.

'But it's a difficult goal to achieve, so I think that the responsibility lies primarily with the journalists and researchers who bring the news to light.'

Ørstavik refers to the special circumstances of the pandemic. Under other circumstances, there would be less urgency, and she believes that caution should therefore be exercised in non-pandemic situations when communicating preliminary results.

Preprints have really improved my work and workflow.

Daniel Quintana

Uncertain long-term effects

Karin Magnusson is a researcher at the Norwegian Institute of Public Health (NIPH) and co-author of two preprints that have attracted considerable attention. One of the preprints was about the long-term effects of COVID-19. According to this study, which has not yet been peer-reviewed, the long-term effects are not as bad as implied by the media.

'Publishing preliminary findings may be more ethically correct than keeping the knowledge to yourself for a long time', she believes.

Magnusson is of the opinion that the long-term effects of COVID-19 are something that decision-makers need to be informed of straight away as this information helps to determine political measures.

However, a colleague contacted her some time ago and mentioned that she had written about a preprint on Twitter.

He wondered what she thought about preprints.

‘There are probably a lot of people who are concerned about this, especially the older generation’, says Magnusson.

In general, she believes that preprint publication contributes to transparency in research. She explains that everyone can get involved and provide input, and it can improve the quality of research.

Extra demand on researchers

Magnusson also believes that the urgency caused by the pandemic has meant that she and her colleagues are even more thorough in the early stages of the research process. Numerous versions of articles have been circulated internally at NIPH in order to obtain critical input. Internal forums have been used more often than usual when it comes to methodology and the linking of large register databases, which she herself works with.

‘When you’re going to publish results in preprints, and you know that many people are interested and that there might be media coverage, it puts extra demands on researchers at an early stage’, points out Magnusson.

Moreover, she and her colleagues are always open about the fact that the results are not peer-reviewed.

In order to make the preprint results known, they have mainly published the results on NIPH’s website. However, the results on long COVID were first sent to a selected medium.

‘We wanted to ensure that the results showing the limited long-term effects of COVID-19 received publicity. After all, the media has a tendency to only write about studies with alarming results.

Preprints

A preprint is a non-peer-reviewed manuscript that has been uploaded to an open online platform. The purpose is to give the public quick access to findings, enable researchers to take greater ownership of the idea, and receive constructive criticism from colleagues.

Source: The article entitled ‘Preprints are here to stay’ by Ragnhild Ørstavik



Researchers should have a public platform, such as a blog, where they can also inform about any errors in their own research, Daniel Quintana suggests. Photo: Elin Fugelsnes



‘If more inaccurate results are spread, it can obviously weaken public confidence in research’, says journal editor Ragnhild Ørstavik. Photo: Elin Fugelsnes

Mentioned in the last sentence

The Aftenposten newspaper was the first to write about the subject, under the heading ‘Norwegian study with 2 million people: most do not get long COVID’.

‘The fact that it was referring to a preprint was not mentioned until the last sentence of the main body of text. Do you think that’s good enough?’

‘Yes, I think it’s sufficient to mention it somewhere in the text. Popular science articles need to be short and concise. But we as researchers can certainly encourage the media to briefly describe the difference between a preprint article and a peer-reviewed article.’

Magnusson also points out one of the strengths of NIPH’s data material: NIPH’s results are based on the Emergency Preparedness Register for COVID-19, which consists of data retrieved from a number of Norwegian registers. The preparedness register contains data on two million people.

‘Although our findings are preliminary, we know that we have good-quality data and that we have used suitable methods, and we have a responsibility to share our findings.’

Putting things right

What responsibility do researchers really have when inaccurate research results are disseminated among the population? Should they publicly correct their own or other people’s results?

Much of the discussion has now moved to social media, where you don’t have any control over the proliferation of research results.

Ragnhild Ørstavik

‘If I had submitted a preprint about a drug to combat COVID-19 that later turned out to be ineffective, I would feel a responsibility to let people know’, says Ragnhild Ørstavik.

Daniel Quintana agrees. He believes that, depending on what the error relates to, the researcher should either rectify it and give details on the preprint platform or remove the entire study.

‘One of the good things about preprints is that it’s much easier to correct mistakes. Once a study has been published, it’s more difficult.’

‘But what if the results have already been disseminated to the public?’

‘It’s difficult, because things spread quickly. But you should try to fix it. If a journalist has written about it, you can contact that person.’

He also thinks that the researchers themselves should have a public platform, such as a blog or an open account on social media. He suggests that TikTok or Instagram can be used when researching a



Screenshot from the twitter account of British MP David Davis.

Ethical guidelines

According to the guidelines of the National Research Ethics Committees, researchers

1. must strive to point out any risk and uncertainty factors that may have a bearing on the interpretation and possible applications of the research findings
2. may share hypotheses, theories, and preliminary findings with the public while a project is ongoing, but (...) be cautious about presenting preliminary results as final results

Sources: Guidelines for Research Ethics in Science and Technology (Section 1) and Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology (Section 2)

topic that concerns young people. You can also use these platforms to inform the public of any errors in your own research.

'Would you have a responsibility if it concerned another researcher's results?'

'If I discovered something, I could let them know and attach a link. It doesn't take much effort. But I don't think we are responsible for looking for other people's mistakes. However, we need to be thorough in our own work.'

International guidelines

ASAPbio is a scientist-driven, non-profit organisation that promotes transparency and innovation in life science communication. In 2020, it conducted a survey about preprints among groups such as librarians, researchers and journalists. The results showed that people's main concern was the possibility of premature media coverage.

Since the survey, ASAPbio has proposed some guidelines for communication about preprints, as part of the Preprints in the Public Eye project.

In the guidelines, they encourage researchers to explicitly state that the results have not been peer-reviewed. They should also try to present the research in a way that the findings cannot be misinterpreted, and they should not exaggerate the significance of the findings.

The journalists, for their part, are encouraged to consider explaining what a preprint is, and what a peer review entails. They should provide a link to the preprint,

they should not refer to it as 'published', and they should include details of the limitations of the study.

Should educate on uncertainty

Aysa Ekanger, an adviser at the University Library at UiT the Arctic University of Norway, thinks this is useful advice. She believes that researchers, the media, journals, research institutions and the school system all have a responsibility.

'Research institutions should inform students and staff of methods for presenting uncertainty in research. Lower and upper secondary schools should teach pupils about the concept of scientific uncertainty. It is important that everyone understands what this is, and that researchers' uncertainty about certain aspects does not mean that all of their research work is erroneous', says Ekanger.

Ragnhild Ørstavik believes that future developments can go in several possible directions.

'If more inaccurate results are spread, it can obviously weaken public confidence in research', she says.

But she can also envision the opposite: a more transparent research process, constructive criticism that is taken on board, and the clear marking or removal of erroneous results.

'This can lead to greater understanding of the scientific process and the long and often difficult road to what we can describe as certain and true. It all depends on future developments', says Ørstavik. ■

First published in Norwegian on 11 October 2021.



Photo: Shutterstock



CO-AUTHORSHIP: Experts have some clear words of advice

‘I’ve often been glad that we clarified things at an early stage’, says Norwegian Nobel Prize laureate Edvard Moser.

BY **SILJE PILEBERG**

ILLUSTRATION **ROBERT NEUBECKER**

Conducting research involves many potential stumbling blocks. Who should be listed as the authors, and in what order? What do you do about the person who did not contribute to the actual research, but who was an essential ‘door opener’? And what if the first author suddenly moves out of the country before the work is completed?

Research ethics committees and research integrity committees are well versed in conflicts about co-authorship. According to Heidi Østbø Haugen, professor of Chinese Studies at the University of Oslo

(UiO), this is because such issues are directly related to ethics and good scientific practice.

‘Researchers must be duly credited for their work. Ambiguities about authorship can weaken the reliability of research because they complicate the reader’s investigation and verification of results’, she believes.

‘The stakes are high’

According to Knut W. Ruyter, research ombud at UiO, co-authorship is the area he receives the most enquiries about. He

has acted as a mediator in several cases. ‘The stakes are high because authorship determines scientific credit and recognition’, he points out.

‘No two cases are alike. But almost all cases are about entitlement to authorship and disputes pertaining to that’, says Ruyter.

Conflicts about authorship can encompass issues such as who should be listed as authors and why, and in what order they should appear.



It's easy to believe that you'll be able to solve the problem quickly by involving those closest to you, but it's more important to do things right than to do them quickly.

Heidi Østbø Haugen



Photo: UiO

Difficult even with guidelines

There are some ground rules: for example the Vancouver Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (the Vancouver Convention) include practical and ethical guidelines in medicine. These are also used in other fields. National research ethics guidelines also cover co-authorship.

But even if you follow these recommendations, you can still encounter problems, according to Ruyter, who himself has a background in research on theology.

So how can we make the co-writing of articles as painless as possible? We asked the following four academics for their advice:

- Knut Ruyter, research ombud, UiO
- Edvard Moser, professor of neuroscience, NTNU
- Heidi Østbø Haugen, professor of Chinese Studies, UiO, and author of a book on research ethics and data processing (*Håndbok i forsknings-etikk og databehandling*)
- Marta Bivand Erdal, co-director, Peace Research Institute Oslo (PRIO).

1st piece of advice: Start early. Clarify who will be co-authors and on what basis.

All four panel members attach considerable importance to this. The situation must be clarified at an early stage, preferably in writing, emphasises Ruyter.

'Nowadays there is a tradition of signing written agreements about all conceivable financial matters, but not about this type of thing', he says.

He advises researchers to carefully consider the reasons why someone can and should be an author. The Vancouver Convention stipulates that no one can be given so-called honorary authorship. And anyone who provided access to data or funding for the research should be thanked in a footnote.

'The Vancouver Convention still leaves a lot of room for interpretation. It states, for example, that authors must have made a substantial contribution. But what exactly does that mean? For me, it means that the bar is high, but the discussion and disagreement often revolves around how little is needed to call something substantial.'

It should also be remembered that co-authorship carries with it a responsibility, advises Ruyter.

'Authors need to be able to stand by the accuracy of their research. The last criterion in the Vancouver Convention emphasises this point. When cheating and fraud are discovered, some co-authors try to evade accountability.

2nd piece of advice: Clarify the author order at an early stage.

Edvard Moser has often been pleased that they have clarified authorship and author order at an early stage.

'That way everyone knows what's been agreed, and the process will be guided by this. Changes may be made along the way, and these changes should also be discussed as soon as possible, so that expectations are explicit', he says.

All students at the faculty must familiarise themselves with the Vancouver Convention. The researchers then discuss which projects each of them should be involved in. They make a clear distinction between the first author and second, third and fourth authors.

'With us, the first author is responsible for driving the project forward. This person is often a PhD student or post-doctoral research fellow', says Moser.

The head of the lab is the last author, with responsibility for guidance and quality assurance. In many cases, this person also plays an active role in drafting the manuscript. In addition to this, the oldest and most experienced authors are listed in reverse order with the youngest first. Moser points out that other academic disciplines may have their own way of doing this.

According to Knut Ruyter, some disciplines have established practices for author order, such as medicine. This applies in particular to the first author and the last author.



When new people come to the lab, we try to explain the rules of the game as best we can, and listen to people, says Edvard Moser. Here joined by postdoctoral fellow Rich Gardner (left) and research student Abraham Zelalem Vollan (right). The rat has a tool on its head, super tiny microphones that can listen to conversations between thousands of brain cells. (Photo: NTNU)



Co-authorship is what research ombud Knut Ruyter (UiO) receives the most inquiries about. Photo: Jørgen Svarstad / Forskerforum

'It's probably safe to say that the first author rule has become quite universal in the sense that more credit is given to the author ranked first than any of the others,' says Ruyter.

Nevertheless, the lack of standardised rules for author order can create challenges, particularly within interdisciplinary and international projects, he points out.

'If there is a dispute, there is no procedure or body to resolve it. That's one of the reasons why I advise researchers to enter into agreements beforehand, and that these agreements cover how conflicts are to be resolved.'

3rd piece of advice: Clarify what the co-authors consider important.

Do the co-authors have any deadlines, for example submission of a PhD thesis? Or do they want the article to be published in the best journal regardless of how long it takes?

Heidi Østbø Haugen believes that clarifying this can be useful even if there is no existing conflict. She has experienced this herself in her current collaboration with a researcher in China.

'We wrote an article together that is now in a rather lengthy peer review process. My co-author is impatient to get it published quickly. But I'm finding it much easier to deal with the situation safe in the knowledge that we agreed to submit our paper to that particular journal.'

Another relevant question is whether there is an urgency for the results to be made known to the rest of the world. In such cases, consideration should be given to where the research will be published swiftly, which journals have open access, who reads the journal, and what responsibility the co-authors have for publishing the results,' she advises.

'Different authors may apply different weighting to these questions. Anticipate the entire life cycle of a writing and publishing process, think through the potential issues that could arise at each step, and discuss these.'

4th piece of advice: Be aware that the criteria for authorship may vary between disciplines.

According to the Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology, it is common in the humanities and social sciences to require that co-authors have actually contributed to drafting and finalising the manuscript. Only those who have contributed to the analysis and worked on the actual text can be co-authors.

Haugen was a guest researcher in the Netherlands for a period. Another guest researcher, in biomedicine, was from Japan.

'This researcher did not have a shared spoken language with his collaboration partners. Nevertheless, they were able to co-publish. This would be difficult in the

humanities and social sciences, where understanding and ideas cannot generally be separated from the language we use to communicate them.'

5th piece of advice: If problems arise, talk about them immediately.

Edvard Moser has not experienced any serious problems in the collaborative writing process, but certain situations have been difficult due to external circumstances.

'A common reason is that the person running the project suddenly moves on and someone else takes over. Then we sometimes have to change the author order,' he says.

Moser advises that the conversation about authorship should be held immediately, particularly if the researcher is moving out of the country.

'It's difficult to persuade someone to take on a project that still needs a lot of work if they are not going to be rewarded. My years of research work has definitely taught me never to leave this discussion to the end.'

If it is not possible to identify who made the most substantial contribution, first authorship is often shared by writing an asterisk next to the relevant names to indicate equal contributions. One will still be presented first, but if you are applying for a job, this will be taken into account,' explains Moser.

This can also be done if two people with exactly the same expertise have contributed equally.

Dilemmas can also arise where it is important for one author to appear first, for reasons of employment or promotion etc., but where it is not crucial for the other author', points out Marta Bivand Erdal.

'What do you do if their contributions are equal, and how do you justify it? Perhaps whoever is first will take the main responsibility for the revision? But what if both are facing the same pressure?'

Discuss it, she advises. Perhaps more than one article is planned, and the researchers can take overall responsibility for one each. Sometimes they may just have to agree to disagree, but find a solution in order to reach a settlement, she adds.

6th piece of advice: Be aware of conflicts of interest across disciplines or countries.

Haugen points out that international researchers often have different conventions and incentives. This can also apply to researchers in other fields.

'Funding arrangements can, for example, be different from country to country. For a Norwegian researcher, it may be important to publish a study in a level 2 journal, but this is not necessarily the case for a researcher in another country. Find out what gives publication points to both researchers. That way you can make good choices for all parties involved', she says.

According to Marta Bivand Erdal, other potential dilemmas can also arise, particularly when researchers in the Global

North collaborate with researchers in the Global South.

'A lot of work goes into recognising the expertise, time and effort that colleagues in the Global South contribute, but there are numerous stumbling blocks. For instance, do you have to publish in English? What about different levels of proficiency in English? What about working hours? How should you organise the practical aspects of collaboration on an article?

7th piece of advice: If necessary, bring in an independent third party.

According to Knut Ruyter, it can be a good idea to have a plan for what to do if conflicts arise.

'Otherwise, you could spend an unbelievable amount of time arguing', he says.

Heidi Østbø Haugen advises researchers to bring in someone who can mediate and view things from an outsider's perspective.

'It's easy to believe that you'll be able to solve the problem quickly by involving those closest to you, but it's more important to do things right than to do them quickly.'

She suggests contacting ethics committees, a research ombud or a safety representative.

8th piece of advice: Remember that authorship is about more than an article.

Marta Bivand Erdal points out that problems can arise in a writing process even where the parties have no bad intentions. For instance: Does the research fellow dare to take up the professor's invitation to take part in the writing project? Does the professor manage to create a climate for the exchange of ideas and opinions — where everyone is heard?

'Co-authorship is part of everyday practice in academia, in which we are constantly carving out the academic culture that we want. Do we want a culture of generosity, tolerance, sharing, learning, reflection and dialogue? In that case, co-authorship is a good arena for doing something concrete', she believes.

She emphasises that researchers can nevertheless be critical and have professional disagreements.

'But we must maintain a calm tone and be respectful.'

9th piece of advice: Seek good solutions internally.

Edvard Moser believes that the boundaries and recommendations for co-authorship are often so unclear that the research community has to figure things out for itself.

How the laboratory is set up can be crucial for his research work. They have reached agreement on this internally, whereby the person who sets up the equipment must be listed as a co-author — but only in the first published work. After that, the equipment is freely accessible to everyone in the lab.

He notes that most other disciplines also have established traditions.

'It's important to introduce young researchers to the culture early on, because it can create a lot of bitterness if someone feels that they've been unfairly treated. After all, getting recognition for your contribution is the very currency of research work.' ■

First published in Norwegian on 13 December 2021

Recommendations and guidelines on authorship

- The Vancouver Convention sets requirements that most medical journals use for the publishing of articles. It also includes practical and ethical guidelines for authors.
- The Vancouver Convention is used in various fields. UiO recently decided to make this the basis for authorship in all subject areas.
- The Vancouver Convention contains criteria for what entitles, or does not entitle a researcher to authorship. No one should be excluded from authorship on unfair grounds, such as by being excluded from the completion of a scientific work.
- Co-authorship is also covered in the Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology and the Guidelines for Research Ethics in Science and Technology.

Sources: 'The Vancouver Recommendations' by Johanne Severinsen and Lise Ekern (2017) on forskningsetikk.no; Knut Ruyter, research ombud, UiO



Marta Bivand Erdal is co-director at the Peace Research Institute Oslo (Photo: PRIO).

Circus freak finally laid to rest

In 2013, a coffin was flown from Norway to Mexico. Several thousand people and a sea of flowers from all over the world welcomed the 'Ape Woman', who was finally to be laid to rest.

This article was first published in Norwegian on 13 October 2020.

BY **ELIN FUGELSNES**

PHOTO **SHUTTERSTOCK EDITORIAL**



Julia Pastrana was put on display in a circus when she was alive and a funfair when she was dead. She ended up at the University of Oslo. Photo: Shutterstock Editorial

In the coffin lay Julia Pastrana, a Mexican woman who had died more than 150 years before.

‘This is a very unique story about a very unique life that causes us to reflect on respect and inclusion’, says Hallvard Fossheim, who at the time was head of the secretariat for the National Committee for Research Ethics on Human Remains.

Fossheim helped ensure that the so-called ‘Ape Woman’ was given a dignified burial.

Embalmed and put on display

Julia Pastrana was born in Mexico in 1834, into one of the country’s indigenous populations. Due to a rare genetic condition, much of her body was covered with hair and her jaw area was unusually large. These special features would eventually lead to her touring the world as a circus act.

The public flocked to see the ‘Ape Woman’, also known as the ‘Nondescript’ or the ‘Bear Woman’, singing and dancing. After a few years, Pastrana fell pregnant by her husband, who was the circus impresario. Complications during childbirth led to the death of her newborn son followed shortly after by Pastrana herself.

For the Mexican woman, death was not the end. She was embalmed and continued her journey in the circus, before a Norwegian funfair purchased this unique ‘attraction’ in 1921.

From funfair to university

In 1995, almost 70 years later, Pastrana’s fate was to end up on the desk of Gudmund Hernes, Minister of Research. In the meantime, history had taken Pastrana on a 30-year tour of Lund’s Tivoli, then to a warehouse in the suburbs of Northeast Oslo, all the way to the Institute of Forensic Medicine at the University of Oslo (UiO).

The question now was whether Pastrana should at last be laid to rest. Or was future research into her rare condition more important?

The Ministry settled on the latter: her remains should be kept available for research – but they must be stored in a dignified manner. In 1997, her remains were therefore moved to the Schreiner Collection at UiO.

‘Her remains were stored in accordance with regulations, in a place that was inaccessible to the public. Pastrana was never exhibited here’, says Jan G. Bjaalie, who was responsible for the collection from 2009 to 2016.

Artist with fighting spirit

Although for a period there was silence concerning Pastrana in Norway, she was still receiving attention elsewhere. In the United States, a play about her life and fate sparked the interest of artist Laura Anderson Barbata.

‘I felt it was my duty as an artist and a woman, particularly as a Mexican woman, to do everything I could to right the wrong that Pastrana had suffered. I also wanted to give her the dignity she had been denied throughout her life and after her death’, she writes in an email to the Research Ethics Magazine.

Barbata fought for several years for Pastrana to be repatriated to Mexico and buried there. She had contact with a number of different parties in Norway.

In 2012, Barbata received the endorsement of the Governor of Sinaloa in Mexico, the state where Pastrana was born. The Governor contacted UiO and asked them to consider the issue of Pastrana’s burial. UiO approached the National Committee for Research Ethics on Human Remains for advice.

What would Pastrana have wanted?

‘One of the things that made this case so special was that it was not about the remains of someone anonymous, but an individual with a name and a known life story. The story was also relatively recent compared to others that are perhaps a thousand years old’, explains Hallvard Fossheim.

In its assessment, the National Committee for Research Ethics on Human Remains highlights the ethical requirement of respect for the individual. To try to meet this requirement, the committee asked itself what it was that Pastrana would likely have wanted.

In the statement from 2012, the committee writes: ‘It seems highly unlikely that Julia Pastrana would have wanted to be part of an anatomical collection. Her life story, and the story of her remains after her death constitute, at the very least, a long story of how she was treated as an object for people to gape at, classify and study.’

The committee concluded that she should be laid to rest, and pointed out the importance of holding a dignified ceremony. First, however, samples could be taken from her with a view to possible future research.

‘Taking a sample is not necessarily disrespectful to Julia Pastrana, as long as it is motivated by a desire to facilitate impro-

vements in the health and quality of life for people with conditions similar to hers’, states the committee.

Research no trump card

On 7 February 2013, UiO handed over a coffin with Julia Pastrana’s remains to a representative of the Mexican Embassy, during a ceremony in the chapel of Rikshospitalet. Five days later, Pastrana was taken to her final resting place in Sinaloa, followed by thousands of people, a traditional tambora band of musicians and the international press.

Barbata describes her own struggle for Pastrana’s repatriation as long and complicated, but emphasises that she is grateful for all the support and guidance she received along the way. Both Fossheim in the National Committee for Research Ethics on Human Remains and Bjaalie point out that remains cannot be handed over to ‘just anyone’. When the Mexican authorities got involved and were willing to accept the remains and provide a suitable ceremony and a safe burial place, however, there was no doubt.

‘When a legitimate party comes along and wants to bury the remains of an identified person, it wouldn’t be right to bring up their potential for research as an argument for withholding them’, emphasises Bjaalie.

Annual trip to the grave

In recent decades, a wind of repatriation has blown through the West. A number of objects and remains have been returned to their countries of origin from museum collections.

‘Norway was never a colonial power, and the Pastrana case is quite unique’, emphasises Fossheim. Nevertheless, he accepts that it can be seen in the light of this growing trend of repatriation, awareness and self-criticism against the backdrop of a long history of colonialism.

Laura Anderson Barbata explains how every year on 12 February, the anniversary of Pastrana’s burial in Mexico, a memorial service is held at her grave. Barbata herself still has an artistic interest in Pastrana and the facts of the case.

‘I feel it’s important to show that the systems that justified the oppression and exploitation of Julia Pastrana are still operating today’, she writes.

No one has yet examined the samples taken before Pastrana’s remains were sent to Mexico. ■

Salmon is the new guinea pig

1.7 million salmon were used in animal experiments in Norway last year. Norway's extensive research on salmon and other fish makes it Europe's most prolific user of test animals.

BY ASLE OLAV RØNNING
PHOTO FREDRIK NAUMANN

Neither mice nor rabbits are the most frequently used test animals in Norway. Statistics from the Norwegian Food Safety Authority show that it is in fact salmon, by a clear margin. Salmon make up 75 per cent of all test animals in Norway. This figure is also high in a European context. No other country in the EU/EEA reports such prolific use of fish in animal testing as Norway.

'Norway is unique in its extensive use of fish as test animals', says Tore Kristiansen, head of research at the Institute of Marine Research (IMR). He also chairs the National committee for the protection of animals used for scientific purposes, an independent committee that was founded in 2019 and advises authorities and research communities involved in animal experimentation.

Kristiansen has extensive experience with research in the field and heads up

IMR's animal welfare group. He himself conducted research on fish for a number of years. Based on his own experiences, Kristiansen believes that the number of salmon and other fish used for research could have been reduced.

'It's likely that a critical review would have shown that we could have reduced the number', he says.

The IMR researcher nevertheless believes that developments have moved in a positive direction in terms of the thin-

Nofima is one of several research institutes developing alternative methods to using live fish in research.



king around fish as test animals. This is part of a larger trend in society. 'In our culture, we have cared little about the plight of the fish, and we've treated them as if they are vegetables. But there has been a major shift in attitudes in recent decades', he says.

Fish farming drives research

The high figure must be viewed in the context of the strong growth and need for development in a number of areas in Norwegian fish farming, from new vaccines to combat disease, to testing feed and treating salmon lice.

The high mortality rate in Norwegian fish farming is also a factor. At any given time, approximately 400 million salmon are found in net cages along the coast. Last year, it was reported that 52 million salmon died in these cages, according to figures from the Norwegian Veterinary Institute. This is partly due to disease and the negative effects from the harsh treatment of salmon to remove salmon lice.

The hope is that research into fish health will help improve fish welfare and reduce the mortality rate, thereby benefiting a large number of fish. Meanwhile, the extensive use of fish as test animals poses an ethical challenge.

Research suggests that fish feel pain and react to stress and unwanted environmental stimuli. Animal experimentation legislation places fish on an equal footing with other animals, and states that no animal should be subjected to unnecessary stress.

The new guinea pigs

Salmon is the largest species among test animals, but research is also conducted on a number of other fish species. In 2020, a total of 2.2 million fish were used in animal experiments in Norway, compared to 56,000 mice and other mammals, 12,000 birds, and a small number of frogs and reptiles.

Efforts to reduce the use of salmon and other fish in research should be stepped up, believes Ingunn Sommerset, head of fish health at the Norwegian Veterinary Institute. She has previously conducted research in the private sector and used test animals.

'Fish are slippery and smooth and totally expressionless. I think the human race in general often fails to recognise fish

as animals that can feel pain and fear', she says.

Earlier this year, Sommerset addressed the challenges of using fish in animal experiments at a seminar held by the Norwegian Council for Animal Ethics and Norecopa, an organisation that works for the advancement of knowledge on alternatives to animal experimentation.

Sommerset particularly points to the testing of prequalified vaccines as a difficult topic. The prequalification process for quality approval of such vaccines often involves burdensome infection testing, where each individual production batch must be approved.

Improves fish welfare

The phasing out of animal experimentation is not a realistic goal, according to Sommerset. She also believes that it would not necessarily improve animal welfare overall.

The controlled experiments that are carried out on the salmon will benefit their conspecifics, in terms of improved fish welfare at the fish farms.

'We need to experiment on a limited number of fish in order to generate the knowledge needed to improve the welfare of a much larger population of fish. In these cases we are not using salmon as a model organism to provide insight into other organisms', points out Sommerset.

She considers it problematic that much of the animal experimentation is never published. This makes it difficult for researchers and the authorities to assess whether specific experiments are necessary. It also prevents others from using the results.

'Researchers should be required to publish all results, both positive and negative, when conducting research that involves animal experimentation', says Sommerset.

'Euthanising fish pains me'

Several research institutes are trying to develop alternative methods to using live fish in research. One of those involved in the work is Elisabeth Ytteborg, a researcher with Nofima.

Nofima is a Norwegian research institute that carries out extensive research in fish health. It has offices in several locations in Norway, and Ytteborg is based at the department in Ås. In her research



Tore Kristiansen is head of research at the Institute of Marine Research and chair of the Laboratory Animal Committee. He believes that in our culture we have paid little attention to the sufferings of the fish. Photo: private

career, she has always been mindful that animal experimentation should be limited.

'I've worked with fish since 2006, and euthanised many. It still pains me to do it. You'd think you would get used to it, but I never have', says Ytteborg.

She believes that alternative models to using live fish are sorely needed in the study of fish health. The models must be developed from scratch, based on in-depth knowledge of the physiology of the individual species.

Alternative models are much more advanced for species such as mice or zebrafish, often enabling researchers to

The three Rs

The international three Rs principle for reducing animal experimentation stands for Replacement, Reduction and Refinement.

The three Rs require that animals should not be used in research if the objective can be achieved through other means. Nor shall more animals be used than necessary, and the experimentation methods must be constantly improved with a view to removing or reducing the stress that test animals are subjected to.

pick and choose. The picture is quite different for salmon, and even worse for species such as cod and lumpfish, which are also important in Norwegian fish farming.

Developing alternatives

Ytteborg and her colleagues have successfully tested new methods based on the use of cell samples from the skin and gills of salmon to investigate the harmful effects of hydrogen peroxide. This substance is used to treat salmon lice. According to the Nofima researcher, the results show that parts of the investigation can be carried out at cellular level. This would limit the number of fish subjected to stress.

'Many new products and methods that enter the market, and which can potentially impact on the health of fish, should and can be tested in models as cell cultures first,' says Ytteborg.

Together with Carlo C. Lazado, a colleague at Nofima, she received an award earlier this year for her research in the field. The award was handed out by Norecopa, an organisation that works for the advancement of knowledge in alternative methods of animal experimentation.

Ytteborg and her colleagues are now working on developing new cell models for lumpfish, a so-called cleaner fish whose task is to eat lice from farmed salmon. In 2020, 161,000 lumpfish were used in experiments.

'We can't stop animal experimentation completely, but we can reduce the number of fish used,' says Ytteborg.

She believes that progress is being made. In addition to reducing stress and suffering, alternative methods can often save time and resources.

Big cages enable big experiments

The Norwegian Food Safety Authority (NFSA) is responsible for approving applications for animal experimentation. The NFSA categorises the experiments according to the degree of stress that the test animals are subjected to. The main categories are mild, moderate and significant stress.

Gunvor Kristin Knudsen, a senior advisor at the NFSA, notes that under the Norwegian regulations, new methods and equipment for treating animals must be tested and considered suitable from an animal welfare perspective.

'This also applies to fish, and often requires animal experimentation. The innovative nature of Norway's large fish farming industry means that its experimentation activity is extensive,' says Knudsen.

Some experimentation is done in commercial facilities, where one net cage can hold up to 200,000 fish.

Knudsen says that various quarters have suggested that Norway may need more test facilities to try out new methods for fish farming on a smaller scale. Increased use of smaller facilities could help

reduce the number of test animals per experiment.

360,000 salmon in one experiment

Figures from last year show that some experiments with salmon involve huge numbers of fish. The largest of these comprised a staggering 360,000 salmon. The five largest single experiments all used more than 100,000 salmon. All of these were in the 'mild stress' category, which can involve, for example, taking the fish out of the water, sedating and tagging them, and returning them without further discomfort.

Furthermore, over 60,000 salmon and other fish (excluding zebrafish) were used in animal experiments where the stress on the fish was categorised as severe. Individually, these experiments are smaller in terms of number of fish. Last year, the largest of the individual experiments in the 'severe' category included 7,800 fish.

Tore Kristiansen of the committee for test animals believes that it is the scope of the experiments with a large stress factor that needs to be reduced most urgently.

'What are you calling on researchers to do?'

'First of all, to be critical to what they subject the fish to, and to carefully consider whether their experiment is properly designed, and if it is absolutely necessary. They should be more quality conscious and keep in mind that they are dealing with animals. They are living creatures,' he says. ■

First published in Norwegian on 11 October 2021.

'We can't stop animal experimentation completely, but we can reduce the number of fish used,' says Elisabeth Ytteborg.



No decision on official investigation

In a statement to the Ministry of Agriculture and Food last year, the committee for test animals (Forsøksdyrkomiteen) recommended that the Government launch an official investigation into the possibilities for transitioning to research without test animals and increasing the use of alternative methods. One year on, the Ministry has informed the Research Ethics Magazine that the Government is still considering the matter, and that no decision has been made.

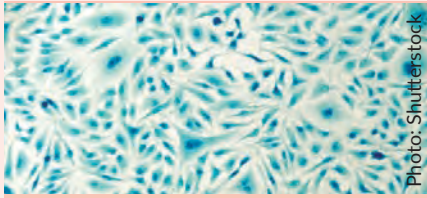


Photo: Shutterstock

Agreement on the HeLa-cells

The cells of the African-American woman Henrietta Lacks have been central to decades of scientific breakthroughs. The so-called HeLa-cells have also been surrounded by controversies.

Recently Lacks' descendants reached a settlement with a biotech company that has allegedly profited from the cells despite knowing that they were extracted without Lacks' consent. The settlement describes how the cells and Lacks' genome data are to be used.

One of the involved attorneys describes the history and origin of the HeLa cells as 'deeply unethical and unlawful' and indicate that other companies also could be targeted.

Source: Washingtonpost.com

White House calls for Open Access

Taxpayer-funded research must be immediately available for the public to access free of charge. That was mandated in a guidance issued by the White House Office of Science and Technology Policy in August 2022. Federal agencies must comply with this new guidance by 2025.

Source: Colorado State University



300

That's the average number of retractions that journals are issuing each month, according to the blog Retraction Watch. By comparison, the number was around 45 in 2010. The oldest retraction recorded in Retraction Watch's own database is a criticism of Benjamin Franklin's research, from 1756.

Source: nature.com



Photo: Linda Bournane Engelberth / Fritt Ord

Academic freedom in practice

Russia researcher Julie Wilhelmsen was awarded the Fritt Ord Foundation Prize for 2023. The prize was awarded to her for contributing expert knowledge to the heated public debate both before and after Russia's full-scale invasion of Ukraine. 'Explaining is not defending', said Wilhelmsen upon receiving the prize. According to Fritt Ord she has demonstrated the importance of daring to speak out and exercise academic freedom of expression in practice.

Source: frittord.no



Sexual harassment plagues Antarctic research

'Every woman I knew down there had an assault or harassment experience.'

The quote originates from an interviewee in a report on sexual abuse and harassment at American research stations in Antarctica.

The report covers people working for the U.S Antarctic Research Program and was commissioned by the National Science Foundation (NSF). It is based on interviews, focus groups and anonymous survey responses.

In the survey, seven out of ten women and five out of ten men report that sexual harassment is a problem in the research environment. The report also found that those working in Antarctica largely don't trust their employers to take harassment complaints seriously, to protect victims, or to punish perpetrators.

Source: science.org



We should be more careful when it comes to how information is shared and who is invited to the institutions.

Sandra Borch, Minister of Research and Higher Education, presenting new Norwegian guidelines for responsible international knowledge collaboration.

Source: Khrono



In 1971, Philip Zimbardo, a psychology professor, converted a basement of Stanford University into a mock prison. Twelve students were given the role of prison guards, 12 of prisoners. Foto: Courtesy of Special Collections & University Archives, Stanford University

Are we not evil after all?

The two most famous social psychology experiments in history revealed the underlying evil of human beings – or did they? Several quarters now claim that the scientists who achieved world fame manipulated the results.

BY LARS KLUGE

How could the holocaust happen, how did the Nazis get enough people to work in the extermination camps?

No problem, you can find them in any small town in America, believed Stanley Milgram, a psychologist at Yale University. Milgram conducted the Obedience to Authority Experiment (see fact box) and emerged as the leading light in the field of psychology. It was not until Philip Zimbardo conducted his Stanford Prison Experiment ten years later (see fact box)

that Milgram was faced with a competitor who could challenge his standing.

In the United States, even today, it is difficult to find elementary psychology books that do not cite one or both of these experiments.

The experiments by Milgram and Zimbardo received considerable criticism for exposing the research subjects to extreme mental stress and duping them. Such experiments would not have been possible under current ethical guidelines, but in recent years, more and more people

are also questioning the conclusions drawn by the two psychologists.

Piles of archival material

Australian Gina Perry has spent years of her life unravelling Milgram's experiments. In 2012, she published the book *Behind the Shock Machine: The Untold Story of the Notorious Milgram Psychology Experiments*. What amazed the psychologist and research historian the most was that no one else had thoroughly reviewed the raw material from experiments that had such importance. And

what about the research subjects? Few people had spoken to them.

Gina Perry ploughed through piles of archival material and hours of audio recordings. She also tracked down several of the experiment participants and became steadily more convinced that Milgram did not actually test his hypotheses, but sought to confirm them.

Electric shocks shocked the world

Stanley Milgram duped the research subjects into believing they were part of an experiment to investigate whether a student would learn faster when he was given an electric shock every time he gave an incorrect answer. In fact, the electric shocks were not real and the student was an actor.

The person who was told to administer what he believed to be an electric shock was the real research subject. The purpose was to investigate whether people obeyed orders even if it entailed inflicting pain on others.

What shocked the world was that two out of three research subjects obeyed orders all the way up to the strongest current of 450 volts. It is this result that is cited every time the experiment is referenced. Gina Perry believes that the reality of the situation is far more complex..

Shakes, sweat and tears

Milgram conducted a number of variations of the experiment, and the high rate of obedience he achieved only happened when the student was sitting in another room. In contrast, when the student was moved to the same room as the person giving the 'shocks', 60–70% of them disobeyed orders. More than 20 variants of the experiments were conducted in total, and in more than half of them, over 60% of the research subjects disobeyed orders.

Moreover, only half of the students were convinced that the shocks were real, and among those, only one in three obeyed orders. The audio recordings also show that the participants suffered considerable anguish, and were protesting, crying, sweating and shaking.

Gina Perry believes the results could just as easily be interpreted to mean the opposite of what Milgram claimed they

proved: that they are evidence that we disobey orders.

Sadistic students?

In the summer of 1971, Philip Zimbardo, a psychology professor, converted a basement of Stanford University into a mock prison. Twelve students were given the role of prison guards, 12 of prisoners. All were men. The purpose was to see if the guards developed sadistic tendencies, which they did. Zimbardo claimed to show that we all have a sadist in us who only surfaces when the circumstances are right.

According to Zimbardo, the prison guards were given free rein to develop their own methods. However, a series of interviews with the 'prison guards' and more recent reviews of the archival material and audio recordings from the experiment give a completely different picture. Before the experiment began, Zimbardo urged the guards to frighten the prisoners

Several of the guards have since claimed that they thought the aim was to see how quickly the prisoners could be broken down, and that their task was therefore to devise methods to expedite this process. They also received instructions from the researchers about which methods they could use. One of the guards was reprimanded for not being tough enough on the prisoners. In contrast, the guard most feared by the prisoners was praised by Zimbardo, who thanked him for doing such an excellent job.

Attempts to repeat the experiment without any instructions to the guards have not led to sadistic behaviour, rather the opposite; the guards and prisoners have become good friends.

Zimbardo has said that he is tired of defending the experiment. He points out that despite the controversy, it is the most well-known study in the history of psychology. Now 87 years old, Zimbardo believes that the best defence of the study is its longevity.

Chasing fame

Professor Hank Stam of the University of Calgary is critical of the early social psychology experiments. He believes that Stanley Milgram did not disclose the finding that the research subjects disobey-

ed orders because he 'knew what success looked like'.

Because who would have heard of Milgram and Zimbardo if their conclusions had been that most people are wary of following orders and do not exploit situations where they can humiliate and harass others with impunity?

According to Rutger Bregman's book *Humankind: A Hopeful History*, the world's two best-known social psychology experiments do not expose our underlying evil; they are just stories of psychologists who yearned to be famous. ■

First published in Norwegian on 22 March 2021.

Sources: Stanley Milgram: *Obedience to Authority*, Gina Perry: *Behind the Shock Machine: The Untold Story of the Notorious Milgram Psychology Experiments*, Rutger Bregman: *Humankind: A Hopeful History*, Thibault Le Texier: *Debunking the Stanford Prison Experiment* (APA), Philip Zimbardo: *The Lucifer Effect*

Obedience to authority

- When: 1961.
- Head of research: Stanley Milgram, 1933–1984
- Research subjects: several hundred random people from New Haven, Connecticut.
- Hypothesis: we obey orders even if it entails inflicting pain on others.
- Method: the research subjects were ordered to administer electric shocks to another person. They were not informed that the shocks were not real.

Stanford Prison Experiment

- When: 1971.
- Head of research: Philip Zimbardo, 1933–
- Research subjects: 24 male students
- Hypothesis: we develop sadistic tendencies if we are given unlimited power over other people.
- Method: half of the students were given the role of prison guards, the rest the role of prisoners.



Growing up in the spotlight

Elizabeth Jones traces the growing pains of an academic field as it seeks to find itself while under near constant public attention.

BY **SEAN DENHAM**, Chair of the National Committee for Research Ethics on Human Remains

In 1984 the first DNA sequence from an extinct organism, a subspecies of zebra, was published in a scientific journal. This also sparked the public's interest in research into ancient DNA (aDNA); the recovery of genetic material from long-dead organisms.

In the book *Ancient DNA: The Making of a Celebrity Science*, Elizabeth Jones shows how the field of aDNA has always relied upon public interest and media attention to keep itself moving.

This was particularly the case in its early days, when the validity of results and even the feasibility of the entire endeavor were questioned. While the book and film *Jurassic Park* did not create this problem, it did raise it to an absurd level.

The *Jurassic Park* franchise oversold the field of ancient DNA in every particular, but this was either unclear or irrelevant to those outside the field. With the intense media attention came increased funding opportunities. Researchers were quick to pick up on this and, at least publicly, aDNA studies became a quest for superlatives: the oldest this, the most complete that.

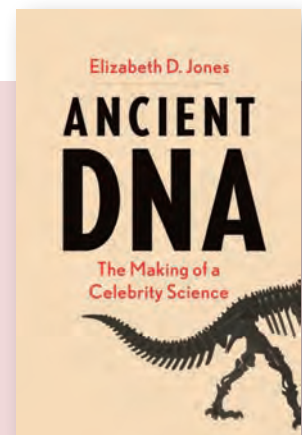
Celebrity science

To describe this phenomenon, Jones introduces the term “celebrity science”, a field that “exists and evolves under intense public interest and extreme media exposure”.

She seeks to portray the concept as a positive one in which researchers can leverage the power of the media to drive both technical/methodological development and further research aims. To a certain extent, that is what happened.

Parallel to aDNA's more public quest for superlatives, internal debates raged over methodological issues, the field's relationship to the media, and the direction of the field generally. These debates, which brought the field forward, were made possible by the prestige and funding resulting from the media attention.

The tradeoff is that research goals could become defined by marketability rather than scientific relevance. This may be either going after something that the public will eat up (e.g. repopulating the Earth with mammoths or Neanderthals), or chasing something specifically because it will lead to an article in a high-impact journal like *Nature* or *Science*.



TITLE
Ancient DNA: The Making of a Celebrity

AUTHOR
Elizabeth D. Jones

PUBLISHER
Yale University Press

YEAR
2022

PAGES
280

ISBN
978-0300240122



The first Jurassic Park film from 1993 is about an amusement park on a deserted island where an eccentric scientist has secretly managed to recreate dinosaurs. Photo: Universal/courtesy Everett Collection

One of the side effects of this system is that it tends to direct funding towards the three or four labs best able to execute the media-friendly research. This raises difficult questions not only about the responsible use of money, but of extremely rare source material, and at a larger level about the legitimacy of the field itself: Does the field exist for the sake of answering scientifically relevant questions or does it exist merely for the sake of existing?

Does the field exist for the sake of answering scientifically relevant questions or does it exist merely for the sake of existing?

A part of the game

The book is divided into two sections, although not formally. The first 7 chapters chart the history of ancient DNA studies and its engagement with the media. These are engagingly written. The internal debates over the legitimacy of the field, in the 1990s and early 2000s (Chapter 6), were particularly interesting.

The final 3 chapters present Jones' thoughts on the nature of celebrity science as illustrated in the earlier chapters. Unfortunately, by the time one gets to this

point, the text begins to suffer from a certain repetitiveness, and the reader is occasionally left with the impression "you've made this point already".

Interviews with more than 50 researchers worldwide form an important part of Jones' book. These researchers clearly show that attitudes towards and experiences with the media vary. Some like the attention, while most despise it.

Media attention is not, in and of itself, a negative thing. It is the way in which the media presents results, and the researcher's role in this, which can be problematic. The assumption among the researchers seems to be that sensationalization or misrepresentation of results by the media is simply part of the game.

And in a game where one's ability to participate is directly associated with the level attention one receives, acceptance of this becomes an existential necessity. ■

First published in Norwegian on 11 October 2022.

Can research integrity be learned?

Possibly – but top-notch seminars with external experts are not much help if you go back to a research community where what you've learned has little value.



Bjørn Hofmann is professor of medical philosophy and ethics at the Department of Health Sciences at NTNU Gjøvik and the Center for Medical Ethics at the University of Oslo.

Cases of research fraud are frequently reported in the news, and scandals are not uncommon. Sudbø, Penkowa and Macchiarini are some of the names from Scandinavia that have made international headlines. Cheating is a significant problem – not least because it leads to 'fake science'. It weakens the benefit and value of the results, and undermines trust in research and researchers.

Research integrity has been suggested as a way of preventing such scandals, i.e. fostering the ability to follow certain moral principles and professional standards, such as objectivity, honesty, transparency, fairness, accountability and good governance.

So, how can we facilitate research integrity, thereby preventing fraud and a furor? The answer lies in another question: Is research integrity about knowledge, attitudes, personality type or culture?

Many measures do not work

A number of measures have been implemented to foster research integrity, including classification systems, checklists, research integrity collaborations, films, games, role-playing and mentoring schemes.

Many of the measures, such as courses, checklists and mentoring schemes, have been shown to have relatively little effect. Could this be because not enough consideration is given to the fact that cheaters are a special breed of people (rotten apples), and that such measures do not work on them? Is it because they learned to cheat as children? Or that the interpretation of research integrity can vary considerably among different people and stakeholders?

For example, heads of research and research policy-makers seem to view integrity as a norm. Researchers, on the other hand, seem to see research integrity as a virtue, i.e. something linked to a person's character. Consequently, norm-based measures, where the emphasis is on following rules, are not necessarily going to work very well.

Research stars trump checklists

A recent article in *Nature* proposes nine specific measures for improving research integrity. They are all formal and structural. However, the numerous revelations in recent years show that this type of measure is not enough to foster research integrity.

One reason for this is that local norms, values, habits and ideals can exist in so-called research cultures independently of formal structures. The head of research or the star of the research group may therefore have more normative power than external ethicists, remote deans, aged mentors, incomprehensible guidelines and wearisome checklists.

I do not refute the idea that research integrity can be taught on courses and through the introduction of rules, but I think it is more important for it to be demonstrated in practice in the individual's own research community. The moral norms of research must be learned along with the professional norms. Citation rules and authorship norms must be learned in the same way as lab set-up and empirical study design. Correct data handling must go hand in hand with statistical analysis.

Look to the Mosers

Research communities need to develop cultures characterised by integrity. When the Mosers received the Nobel Prize, they were clear about the importance of safeguarding their reputation and delivering robust narratives.

Research integrity is best developed through good communities with close-at-hand, accessible role models. Every researcher or head of research should answer the following questions: 'Is my research community just as good at morals as methodology? What can I do to help us achieve that?' Only then can the foundation for rigorous research be laid – both academically and morally.

First published in Norwegian on December 12, 2020.

Our columnists are
Jan-Ole Hesselberg,
Bjørn Hofmann,
Norunn Myklebust and
Elisabeth Staksrud.



Shrunken heads not a selfie opportunity

In Bergen, museum visitors have been able to see a head taken as a war trophy. Curator Åshild Sunde Feyling Thorsen was concerned about creating stereotypical perceptions of the people of the Amazon.

WRITTEN BY ELIN FUGELSNES

When a newly refurbished university museum opened its doors in 2019, various exciting natural history exhibitions were on display. The so-called shrunken head, or *tsantsa*, could easily have been used to lure curious souls to the museum. Instead, it was discreetly placed in the exhibition room under subdued lighting.

'We didn't want to reduce the head to a sensational oddity that people posed beside to take a selfie', says Thorsen.

Thorsen was responsible for the ethical assessments of the human material that was planned for the new exhibitions.

'I quickly realised that, although it was all human material, every single object would require a different kind of ethical reflection. There's a big difference between an 8,000-year-old skull from Western Norway and a South American *tsantsa* from the interwar period', says the curator.

It was the latter of the two that would cause the most ethical headaches.

Trade in heads

In the 20th century, heads were taken as war booty by the indigenous Shuar people. The skull and brain were removed as part of a special process, before various rituals were held to shape and shrink the head.

'When the rituals were over, the head itself no longer had any great significance, and could either be thrown away or exchanged for weapons or other goods', says Thorsen.

The shrunken head at the University Museum in Bergen was probably collected during the interwar period. Back then, trade in *tsantsa* was still legal and partly controlled by Shuar groups themselves. But was it acceptable to exhibit it in a display case in a Norwegian museum decades later?

'We need to have a conscious understanding of what we exhibit, and how we represent other cultures. The head originated from a relatively recent practice, so I was afraid that we would reinforce the headhunter cliché about ethnic groups in the Amazon', explains Thorsen.

From sensationalism to reflection

The curator familiarised herself with the Shuar and Achuar culture and considered the ethical issues before discussing them with colleagues and the National Committee for Research Ethics on Human Remains. The way the head was to be presented, and the context in which it was to be exhibited tipped the scales towards putting it on show.

Thorsen believes that museums today have a more reflective and analytical approach to exhibiting ethnographic objects, and that nowadays they tend to avoid sensational exhibitions.

'For a period up to 2014, the *tsantsa* head was exhibited at the museum in a diorama depicting Shuar culture, and many people remember this well. This time we wanted to put it into more of a



Åshild Sunde Feyling Thorsen

Curator at the Department of Science and Research Communication, University Museum, Bergen

history of science and philosophical context. We wanted to show the research process and method, and how science's interpretation of objects can change', she explains.

The exhibition was also intended to stimulate reflection on some of the questions the curator had been pondering: How do we now regard yesteryear's collection of ethnographic objects? And what does the public think about exhibiting objects that have been sacred or linked to religious life?

Thorsen is not aware of any selfie-posing or negative reactions by visitors.

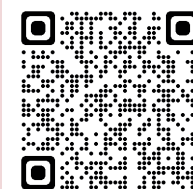
'I think the public has understood our intention', she concludes.

First published in Norwegian on 11 October 2021.

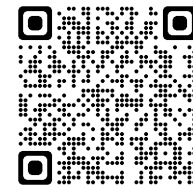
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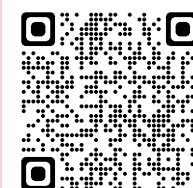
A red thread connects the proceedings against Nazi doctors in a bombed-out Nuremberg 75 years ago and today's research ethics committees..



Two scientists decided authorship order by croquet, but that's probably not for all. Experts share their advice for co-authorship. And synthetic human embryos spark debate.



Read about shrunken heads on display, the Tuskegee study's connection to vaccine scepticism and the prolific use of salmon in Norwegian research.



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