Vilhelm Bjerknes
THE FOUNDER OF MODERN WEATHER FORECASTING

DIGGING FOR CLUES
HOW CAVEMEN 100,000 YEARS AGO ADAPTED TO CLIMATE CHANGE

THE ALUMNI INTERVIEW
HANNE SOPHIE GREVE: FROM LAW STUDENT TO HUMAN RIGHTS ADVOCATE
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When picking up this magazine, you may have asked yourself: What on earth is a hubro? Hubro is the Norwegian name for the Eurasian eagle owl, also known by its more illustrious Latin name *Bubo bubo*, and as it has always been a part of UiB’s logo, Hubro is a natural name for our magazine. UiB is a multidisciplinary university in a small country on the edge of the world with plenty of international research, not the least climate research. Taking you behind the scenes of an IPCC report, we met up with researchers at the Bjerknes Centre. The centre is named for Vilhelm Bjerknes; born 150 years ago and the founder of modern weather forecasting, he made his great discoveries in Bergen. With his vision and prescience, he was the natural choice for the front page of Hubro’s first international edition.

Medicine is another area where UiB excels internationally, from issues of global health to diabetes research. Then there is the development of an iPhone app to help schizophrenics, the innovative use of a video essay to present television research, not to mention a project that looks at how technology is transforming the Russian language.

We also paid Judge Hanne Sophie Greve a visit to kick off our series The Alumni Interview. Harbouring dreams of acting as a child, she instead became one in a long line of Norwegians involved in human rights work. Her work ties in neatly with ongoing law research at UiB, which you can read more about in a special feature on international law.

With nature on its doorstep, Bergen is also a city where you can truly get in touch with the elements. The Bergen City Mountains are a must for any visitor, so we took a walk in the mountains with Professor Ole Reidar Vetaas, who told us that the forest surrounding the city is actually a park. Enjoy!
The debate about medical priorities in poor countries is characterised by difficult decisions and priorities. Take Ethiopia, where half of all those infected with HIV receive treatment, yet only ten per cent of Ethiopian children who suffer from pneumonia are treated.

- HIV treatment is a good thing, but very costly. When resources are scarce, it’s important to make sure that the money spent is distributed fairly, says Ole Frithjof Norheim, Professor of Medical Ethics at UiB.

Asking the right questions

Not only must physicians and decision makers ask themselves some tough questions, they also need to know which questions to ask. At the initiative of Norheim’s research team, a guide called Guidance for Priority Setting in Health – GPS Health has been developed, in cooperation with the World Health Organization (WHO) and others.

The guide lists questions such as Is the project cost effective? (e.g. mosquito netting), Is the condition so severe that the health benefits should be given added weight? (e.g. HIV), and Does the condition affect disadvantaged people in particular? (e.g. TB). These types of questions can help decision makers make the right choices.

- Prioritising involves fundamental questions about values, so it has been difficult to reach an agreement on everything, Norheim admits.

The final guide will be presented at the International Society for Priority Setting in Health Care in Vancouver in September. The guide will then be tested in India and Namibia.

Influential think tank

Norheim’s work is connected to UiB’s Centre for International Health (CIH). Last winter, the centre was named the 22nd most influential health policy think tank in the world in the University of Pennsylvania’s The Global Go To Think Tanks Report.

- CIH has a good reputation in international health because we focus on capacity building in the countries we work with. We want there to be something to show for our work when we leave these countries. When it comes to prioritising health, I find that WHO and other organisations are very responsive to our contributions, Norheim says.

He also believes CIH’s impact is due to Norway’s special status in contributing to achieving the UN’s Millennium Development Goals on maternal and child health.

Norheim now works on a five-year project called Priorities in Global Health 2020, which involves groups in India, Ethiopia, and the United States. The goal is to develop specific methods for integrating fairness in economic analysis.
Modernising the Museum

The building housing the natural history collections is being restored to its old splendour.

The University Museum of Bergen is the birthplace of the University of Bergen. The building that houses The Natural History Collections was finished in 1865, and is located at the heart of the university area. When UiB was finally established in 1946, research done at the museum continued.

The monumental museum building itself is currently being renovated. The first task is to transform the southern part of the museum from a drab office block into a grand assembly hall. The hall will be ready for the bicentennial of the Norwegian constitution in 2014, emphasising the integral part museum founder Wilhelm Frimann Koren Christie played in the shaping of the constitution.

The museum is to be refurbished, but is also a unique building and is therefore protected by the Directorate for Cultural Heritage. The renovation process will preserve what makes the museum special, such as the collections. These contain many animals that are either extinct or endangered.

Given the unique nature of the collections, there has been a focus on improving the indoor climate, improving accessibility for all patrons, and expanding public services. Contingent on further funding from the national budget, work on the museum will continue after 2014.

A GREENER UNIVERSITY

UiB wants to do its part for the environment. By the end of 2012, the number of parking spaces will have been reduced by 30 per cent. «We are doing this in order for UiB to become a greener university. This is one of the most important contributions to reducing the use of automobiles in the centre of Bergen», says University Director Kari Tove Elvbakken. UiB is also focused on energy efficiency measures, and is making these through renovations, investments, and periodic building closures. All UiB buildings have energy labels.

DISCOVER THE CAMPUS

The University of Bergen is located in the city centre, in the old residential area called Nygårdshøyden. This means that the university’s buildings range from modern constructions to blocks of flats built in the nineteenth century. The property guide Nye høyder was created to enable students, staff, and visitors to learn more about the history of the university’s buildings. This handy pocket-sized book tells the story of the buildings and their former residents, and divulges small secrets from UiB’s recent and distant history. You can download the guide here: http://bit.ly/uibcampus

THE GIANT’S WASH BASIN

How do you wash whale skeletons that weigh several tons and hang from the ceiling at the University Museum of Bergen? The answer: very slowly, with ammonia and water. The Whale Hall contains 22 whale skeletons, many of which have hung from the museum’s ceiling since 1865. For more than two years, five people worked full time to clean the whale skeletons with diluted ammonia, a wet-dry vacuum, and tons of patience. The delicate cleaning process also involved uncovering and repairing a century of wear and tear (this photo gives you some idea of the pre- and post-conditions). Several of the skeletons are from species that are now extinct.
Spotlight on research

Popularising science in front of a live audience.

Research is important in and of itself, but to reach out to a wider audience is almost equally important. At UiB, we believe that research can be both educational and enjoyable. This is why we initiated an annual contest called Science Grand Prix (Forsker Grand Prix). The contest gives young researchers in Norway a chance to make their research more accessible to the general population by presenting it to a live audience. Regional finals are held in six cities prior to the annual national finals during the National Science Week in Norway (Forskningsdagene).

In 2011, Audun Hetland from the University of Tromsø was voted best communicator at Science Grand Prix. His research examined why some people choose to engage in extreme sports. He entered the stage wearing base jumping gear and a heart rate monitor, which only goes to show that communicating research can be extreme in itself.

What employers want

Turning out students with valuable skills.

What do employers want from graduates? This was the backdrop for the survey Competence 2020, commissioned by UiB. The resulting report showed that employers value typical academic qualities such as independence and critical thinking, as well as academic and theoretical knowledge. The report also showed that the bachelor degree is viewed in a positive light: until 2030, demand for graduates with a first degree will be greater than demand for graduates with higher degrees. The survey also showed that there is no sign of a so-called brain drain from Bergen. On the contrary, the region sees an annual «brain gain», as more students choose to stay here after graduating.

GPS at the University

Students in Bergen and UiB’s international employees have a specialised GP service. Legene på Hayden is a medical centre at Vektertorget with three doctors. They offer GP services, appointments at short notice, and emergency treatment when necessary. The medical centre is organised through a collaboration between UiB, the Student Welfare Organisation in Bergen (SIB), and the municipality of Bergen. Between them, the three doctors speak Norwegian, Hindi, Urdu, English, French, and German.

A Conference of the Major Challenges

Every spring, UiB invites the local community to the Christie Conference, a meeting place for academia and community and business leaders. In 2012, the conference theme was the university’s role in future global challenges such as climate change, poverty reduction, and population growth. At the conference were guest speakers from China and Brazil, and Norway’s foreign minister Jonas Gahr Støre closed the conference with an appeal for a greater global sharing of knowledge. The Christie Conference is named after Wilhelm Frimann Koren Christie, one of the founding fathers of Norway and founder of the University Museum of Bergen. In the photo, Rector Sigmund Grønmo is addressing the 2012 conference.
From local heroes to Hollywood

The boundaries between global and local were blurred when music artists started using social media, according to a new book.  

TEXT  WALTER N. WEHUS

Spring 2007. Datarock from Bergen are sweating it out on stage at the music industry festival South by Southwest in Austin, Texas. This was just one of hundreds of international pit stops for the Norwegians, who have played more than 700 gigs in 33 countries.

While their music was obviously the vital ingredient, social media also played a decisive role in spreading the sound of Datarock, as it has since done for countless other artists, in Bergen and elsewhere. Suddenly, local music could reach a more international audience, and at the same time could also be used to promote local gigs.

The Bergen wave

It is easy to forget that only ten years ago there was no MySpace or Facebook, or indeed Twitter.

- In the past, it was much harder to get an overview of the different music scenes. Unless you travelled from Norway to London or Amsterdam to listen to current releases in special vinyl record stores, you were dependent on weekly or monthly magazines to keep you up to date, says Ole J. Mjøs.

He is associate professor at UiB’s Department of Information Science and Media Studies, and is the author of the recently-published *Music, Social Media and Global Mobility* (Routledge). In his book, Mjøs interviews key figures from Bergen’s vibrant music scene in the 1990s and 2000s. He also has a background from electronica production and acts such as Drum Island.

- When MySpace was started in the US in 2003, many artists quickly adopted this as a tool to spread their music, he explains.

From the artists’ perspective, MySpace had numerous advantages. The website enabled them to establish contact with like-minded people. Interaction between artists and fans was more direct. The bands could easily post updated information about themselves. And last but not least, it was free at a time when it could easily cost 20,000 Norwegian kroner to set up your own web page.

Global and local

When Datarock created their profile, they were fortunate enough to be featured on the front page of MySpace. This created huge momentum, and the band received 40,000 friend requests in three days.

MySpace was acquired by Rupert Murdoch’s News Corporation empire in 2005 for 580 million US dollars. Still, commercialisation was not the main reason when artists left MySpace soon after. A sluggish system, excessive advertising, an awkward audio player, and an overall not very user-friendly site made artists look for alternatives.

Social media goes mainstream

- When Facebook emerged, social media went mainstream. What made the service so popular was the fact that literally everyone was there. Facebook gave artists an opportunity to reach more people and potential new fans, and the service was also extremely user-friendly, says Mjøs.

The UiB researcher is however cautious about calling artists’ use of social media a “revolution”, and is keener to point out that this made music more accessible.

- These days music is instantly available. It may be harder to be original for artists now, but it has become far more important to create something that is personal, he says.
Sleep problems cost billions

Insomnia and sleep apnoea are turning us into major health service consumers, causing us to be less productive at work, and may even lead to serious accidents.

By Walter N. Wehus

If you can’t sleep at night, you’re not alone. Around ten per cent of the population suffer from insomnia, where you have trouble falling asleep, wake up frequently at night, and still feel tired when the morning comes.

– When you feel tired and indisposed, your performance at work suffers, says Børge Sivertsen, professor at UiB’s Department of Clinical Psychology and senior researcher at the Norwegian Institute of Public Health.

Sleep apnoea is a more severe problem, affecting four to five per cent of the population. Sufferers can stop breathing for up to 40 seconds several times during the night, putting a huge strain on the heart. As a result, they have many micro-awakenings that stop them from reaching deep sleep.

Bad night, bad day

According to the sleep scientist, a recently-published study from the United States puts the annual losses from insomnia alone at 63.2 billion US dollars. Only a third of this was due to actual absence from work; two thirds was due to a loss in productivity while at work.

– An Australian study found that about two per cent of Australia’s GDP is lost due to sick leave caused by insomnia and sleep apnoea disorder. This shows how common these diseases are and how much they affect work, Sivertsen says.

Danger on the roads

In their own ways, each sleep disorder also has a strong impact on accident statistics. For example, lorry drivers have sedentary jobs, and this increases the risk of developing obesity and sleep apnoea.

– The disease is a major cause of the many traffic accidents on American roads, Sivertsen says.

As for insomnia, drug use can cause problems. Sivertsen’s studies show that sedatives can cause users to feel less rested during the daytime.

– Sleep medication may work in the short term, but after six weeks of use we noticed a decrease in deep sleep. Sleep may be uninterrupted, but you may not necessarily get quality sleep, he says.

Testing every treatment there is

Sleep disorder sufferers are often major health care users, which leads to an increase in social costs.

– When you feel bad, you will try every treatment there is. There is an overconsumption of alternative methods amongst insomnia sufferers. They often consume too much alcohol and visit their GPs, psychologists, physiotherapists, and chiropractors more often.

Sivertsen wants insomnia treatment to become more accessible, and to include cognitive behavioural therapy.

– Several recent studies show that the Internet can be used to offer good and cost-effective methods of treatment. This is particularly true in areas where sleep centres are few and far between, he suggests.
The grand puzzle of climate research

At the Bjerknes Centre for Climate Research, more than 100 climate scientists work to study the climate – past, present, and future.

The Bjerknes Centre for Climate Research celebrates its first decade in 2012 and has established itself as the leading natural sciences climate centre in the Nordic region. Eystein Jansen is head of research and was heavily involved in the establishment of the centre in 2002. Today the centre has more than 100 scientific staff, about half of whom are from outside of Norway.

Over the last decade, the Bjerknes Centre has been recognised as a major academic participant in climate research. But just as important is the fact that we have been recognised for our work in society outside of academia as well. We provide knowledge that is useful. It has always been our aim to be relevant and this is particularly obvious in our basic research, says Jansen.

He believes there is one particular reason why the research at Bjerknes is of such high quality.

– It’s the people here. We simply enjoy working together. There is diversity and a lot of interdisciplinary action, which means that the research expands into new areas all the time. Our research demands heavy-hitting teams with broad expertise across disciplines, he says.

Solving the puzzle

Like a large puzzle, the scientists, working in five interdisciplinary groups, create a bigger and clearer picture of climate change.
working in five interdisciplinary
groups, create a bigger and clearer
picture of climate change – past, pre-
sent, and future. The overall goal is
to understand and quantify regional
climate change as part of the global
climate system.

Geologist Bjørg Risebrobakken
and atmospheric scientist Camille
Li are two of the centre’s best puz-

zle solvers. Together, the two lead
the four-year project DYNAWARM:
Dynamics of Past Warm Climates
at the Centre for Climate Dynamics
(SKD), a Bjerknes offshoot.

A physicist by training, Camille
Li decided to go into atmospheric
sciences after her bachelor’s degree.
She has worked at Uni Research and
Bjerknes for approximately a year,
and before that for three years at UiB.
She chose to join Bjerknes because
the expertise in paleoclimatology and
physical oceanography would allow
for exciting interdisciplinary work.

– There’s a great enthusiasm and
wide expertise at SKD and the Bjerk-
nes Centre. It’s a mix of people from
different disciplines, and the effort
we’ve put into understanding one
another and working together is well
worth it, she says.

She believes the interdisciplinary
work methods at Bjerknes are unique.

– I’ve worked in other projects
where we wanted to do this, but didn’t
quite succeed. I think Eystein has
established an environment where
cooperação between disciplines is
possible. He’s seen how important
it is for climate research to move in
this direction, Li suggests.

**Researching Past Climates**
Camille Li and Bjørg Risebrobakken lead the DYNAWARM project, which seeks
to improve our understanding of the climate system in
a warmer world, and to learn more about the present and
future climate by looking at
warmer periods thousands of
years ago.

**Prize-winning research**
In 2014, the Intergovernmental Panel on Climate Change (IPCC) presents its Fifth
Assessment Report. The Bjerknes Centre is heavily involved with the report.

On the walls of Eystein Jansen’s cramped
office, partly hidden behind a door, hangs a
prize. It is a copy of the Nobel Peace Prize
that the IPCC and Al Gore shared in 2007
for «their efforts to build up and dissemi-
nate greater knowledge about man-made
climate change, and to lay the foundations
for the measures that are needed to coun-
teract such change».

Jansen received his copy of the prize
based on his role as a co-ordinating lead
author in the IPCC’s Fourth Assessment Re-
port from 2007. The Bjerknes provided the
coordinating lead author, lead author, and
several contributing authors.

**Comprehensive work**
The centre is once again heavily involved
with the next report, which is to be pre-
sented in 2013 and 2014, with four lead
authors and several contributing authors,
mostly in Working Group 1 which deals
with the natural science basis for climate
change.

Jansen himself is in the midst of work
on the next report. The responsibility of
the lead authors of IPCC reports is to assess
Bjørg Risebrobakken agrees that the interdisciplinary approach taken at the Centre strengthens the research at Bjerknes and the DYNAWARM project.

At Bjerknes we have teams with different skills, that are able to view things from several angles and provide us with a larger picture, she says.

**Hippo teeth and palm trees**

By extracting columns of sediment from the bottom of the ocean, the DYNAWARM researchers explore how climate has changed through the ages. There is every indication that there have been periods when the entire planet, including the polar regions, was very warm.

- Fossil remains have been found of forests in the Arctic and Antarctica, and hippopotamus teeth in the arctic regions of Canada. The climate certainly must have been quite different from what it is today, Risebrobakken suggests.

According to Risebrobakken, the objective of the project is to understand how and why these warm climate periods existed, and develop an increased awareness of the interplay between the atmosphere, the oceans, and the cryosphere. Many different factors can contribute to climate change, such as variations in solar radiation, atmospheric greenhouse gas concentrations, sea level, and tectonic regimes.

**The past helps to predict the future**

Knowledge of climate in a historical perspective is crucial if we are to understand the complexity of the climate changes currently taking place, and to distinguish between natural variations and human-made climate change.

- Right now, the Earth’s climate is warming at a very fast rate. The last time atmospheric CO₂ concentrations were this high was 2.5 to 3 million years ago. Looking into past climates can give us an idea of what might happen in the future, says Li.
- What will happen if the global temperature rises by 3° C? Our research gives us insight into long time scale processes and lets us see what climate conditions were like when the global temperature actually was 3° C higher than today. Not only is this exciting material to work on, it is also essential work. It is a puzzle, where we find small bits here and there and put them together to see the bigger picture, Risebrobakken says.

**Change comes quickly**

Jansen believes that the fifth IPCC report will stress the gravity of the climate situation to an even greater extent than previous reports.

- We are in an altogether extraordinary situation as far as climate change is concerned, where changes take place more rapidly than nature is accustomed to on the global level.

Although there is every indication that addressing climate change is urgent, one doesn’t always get the impression that the powers that be implement the required measures. Jansen does not however lose heart.

- My motivation is to figure things out. That is my driving force. Research results that are of importance for the whole planet must be presented in public. and even if the message from climate researchers has been known for years, we need to keep repeating this urgent message, Jansen makes clear.

**Facts**

**The Bjerknes Centre for Climate Research**

- Consists of four partners: the University of Bergen, Uni Research, the Institute of Marine Research, and the Nansen Environmental and Remote Sensing Center.
- The scientific staff consist of more than 120 researchers and scholars, hailing from Norway and several other European countries, the United States, Canada, China, and a number of countries in Africa, Asia, and South America.
- The Centre had more authors in the last IPCC report than any other Nordic research institution, and is one of four European centres that contributed climate scenarios to the report.
- The Centre coordinates Norwegian activities for developing climate models/earth system models in advance of the next IPCC report.
- A benchmarking of international climate centres in 2008 placed the Bjerknes Centre as number two, ranging ahead of many known climate centres in the US, Europe, Asia, and Australia.
- The centre is named after Vilhelm Bjerknes and his son Jacob Bjerknes, who were the leading figures of the «Bergen School» of the physics of atmosphere and ocean.

**READ MORE ABOUT VILHELM BJERKINES ON PAGES 40-42 »**
Q: Do you ever miss your international work?

A: «I don’t miss the misfortune, misery, and death of others. But I occasionally think about those parts of my expertise I don’t get to use.»

The human rights advocate

She has been threatened with death and seen street justice prevail. But Judge Hanne Sophie Greve has never lost faith in humanity.

16 April 2012. A chilly spring breeze blows across Gulating Square. A Roma man plays the accordion by Lille Lungegaardsvann in the city centre of Bergen. People are rushing home from work; a skateboarder drops his bag in front of the new courthouse before showing off his tricks. It’s business as usual on this afternoon as Judge Hanne Sophie Greve leaves work. But this is also the first day of the trial against mass murderer Anders Behring Breivik in Norway’s capital Oslo.

22 July 2011. Breivik carries out a terrorist attack against the cabinet building in Oslo before going on a killing spree at the Norwegian Labour Party’s youth camp on Utøya. He kills 77 people, the majority in their teens and early twenties. Some relatives have wished him dead. But what does Greve – who is best known internationally for her human rights work through the United Nations and the European Court of Human Rights in Strasbourg – think of the human rights of this mass murderer?

- The rights of one individual cannot come at the expense of the rights of others. And the greatest right of all is the right to life. This applies to him as well, despite his disdain for the lives of others. I’m glad we have a legal system that addresses his outrageous crimes, and where decisions about guilt and punishment are not made based on strong emotions alone. Anders Behring Breivik is first and foremost a human being, regardless of the abysses of suffering he has caused, says Greve.

Damaging procrastination

She believes that Breivik’s is «a life of missed opportunities». She is glad that Norway does not have capital punishment, but is critical of the long-overdue update needed in Norwegian legislation, and the fact that a contemporary criminal law that addresses the issues raised by the 22 July terror attacks is not yet in place.

- We have worked to establish provisions on genocide since 1948, but our politicians have been extraordi-
ETERNAL FLAME: — You are energised when you engage in something that you master or believe that you will master; something that is meaningful to humanity. That you are part of a positive and creative relationship with others, says Hanne Sophie Greve, Appeal Court judge and former UiB student.

F A C T S

Hanne Sophie Greve
• Born on 14 April 1952.
• Civil status: Divorced.
• Lives in Bergen.
• Studied law at UiB 1972-1976.
• Assistant professor at UiB in 1977 and again in 1979.
• Currently works as a judge at the Court of Appeals in Bergen (Gulating Lagmannsrett).

narily helpless. They should also have established rules concerning terrorist activities and other extreme crimes, such as crimes against humanity and the most serious war crimes. But this has been delayed, in part with the excuse of a lack of resources, and in part because it did not seem to be something we needed to be concerned about, Greve explains.

Norwegians like to believe that they are at the top of the class. In matters relating to the law, this is hardly the case, if Greve is to be believed. To the contrary, we are amongst the slowest to act. Examples? Trials are not taped, and evidence is not secured properly at crime scenes.

— We have decided that it is too costly for wealthy Norway to tape a court case. But it costs a mere trifle! This means that every case must start from scratch, from a first instance court (tingretten) to the Courts of Appeals (lagmannsretten) and then again in the Supreme Court of Norway (høyesterett). This means that people can adapt their testimony. Other countries don’t understand what we’re doing, Greve states dryly.

International impulses
At the age of ten, Hanne Sophie Greve was a child actor. At 16, she won a gold medal in orienteering in Western Norway. By the age of 30, she was a lawyer doing work in Thailand for the UN High Commissioner for Refugees. At 40, she led Verdikommisjonen, a committee appointed by
LEARNING FROM HISTORY: – Martin Luther King Jr. said, «it may be true that the law can’t change the heart, but it can restrain the heartless.» I believe that there is much to be learned from a careful study of history, our own and that of other peoples, and inspiration to be harvested from the arts, so that we may advance the law and the legal profession in an ever more visionary and suitable manner, enhancing the worth and the dignity of every member of the human family, says Hanne Sophie Greve.

the Norwegian government to look at and inspire debate on values and ethics in society.

At 50, she found herself a human rights judge in Strasbourg, ensuring that national courts across the continent abided by the European Convention on Human Rights. She has worked in Europe, Asia, and Africa, and lectured at the most prestigious universities in the world. And now – at 60 – she is back working as a judge in the Court of Appeals (Gulating lagmannsrett) between the seven City Mountains of Bergen.

A ban on street begging
Never afraid of controversy, she is critical to the lacunas in Norwegian legislation regarding the most serious crimes and to prevent impunity for such crimes. Personally, she supports a ban on street begging for foreign nationals, in order to reduce the market for human trafficking. Appropriately enough, she is a member of the Council of Europe’s Group of Experts on Action against Trafficking in Human Beings (GRETA). Furthermore, Greve wants to have a system in place that makes it possible to try criminal court cases across national boundaries, based on agreements between the states affected.

Is the child actor still a part of the Hanne Sophie Greve of today?
– Aristotle said that the capacity for empathy and sympathy is essential for making moral decisions. I believe that art – and I see myself as a fascinated observer of the arts – is about seeing the world through the eyes of others. That, I believe, is also essential for being a good lawyer. If you want to work in human rights, you should be fond of people and try to understand their points of view. Greve believes that she got involved in human rights due to a combination of her private background and professional interests.

– From an early age, I was exposed to influences from many countries. My parents were open-minded, and I was familiarised with many views. I grew up Catholic and I still am a believer. It is a very international church. My family were also active in the resistance during the war. We always discussed issues of right and wrong at home. There are things you simply cannot compromise on, such as the right to life.

Ethical questions were an integral part of the young Greve’s life. For her, the rule of law is about more than resolving conflicts between neighbours who quarrel about the height of the hedge that divides their properties. Greve was never big on nit-picking. For her, the law is primarily about establishing basic human rights.

– I don’t think of myself as a pacifist. There can be good reasons to be in a war, but there is no such thing as a «good» war. War is terrible, no matter where and when.

From student to lecturer
She views her student years at the University of Bergen (UiB) as «extremely positive». Her only problem was that she often wanted to speed things up and was impatient with her surroundings.

– In the hierarchy back then, you were not always accepted as a lower-grade student. You often needed seniority to attend seminars and to access the reading rooms at the faculty. But it didn’t really matter to me. It was a wonderful time, because the faculty was developing and there was a dialogue amongst us students about the future of law. The academic environment was young and open.

Bergen is a small city in a world of more than seven billion people. Have you ever thought of that as a drawback?
– It’s obvious that if you study at Harvard or Stanford, you will meet lecturers who are outstanding. But today, most of the information you need is online anyway. I’ve never considered it a drawback to live in a small place. Before you walk you have to learn to crawl. I’ve always found it inspiring to reach for a higher level.
Nowadays, Greve sporadically guest lectures at UiB, most recently during the winter of 2011-12, in a double session with students who were studying human rights law.

– I can easily keep going for weeks when I start one of these sessions. It was such a beautiful and exciting group of young people. So committed! She believes that the main difference between students now and in the past can be found in the fabric of society.

– Today’s students are more informed than we were, because they have a broader opportunity to shop for information. But some of the information available lacks depth. When I studied, the majority were full-time students. We spent all our time studying the law. There are advantages to that over today’s part-time students, who often work on the side. But I believe that people are still asking the same basic questions: where do I stand, where am I going?

**Power corrupts**

Greve’s one goal has always been to speak where others are silent, to address what others leave out. Her days are filled with keeping track of the news, professional input, and practicalities. Ask her about the Kardashian sisters, and she draws a blank. Gossip columns and reality shows have no place in Greve’s life. Instead she does Sudoku and advanced math to unwind. When there is any time left, she spends it with family and friends.

– I have tried to acquire the knowledge and life experience you need to face the constant challenges of life. I love people; every single soul I meet has something to offer me.

**Does she ever get bored?**

Hanne Sophie Greve breaks into a warm and spontaneous laughter, before answering.

– No, I don’t have time for that! If you have interests that go beyond yourself, you really have no time to get bored.

She views herself as a cheerful person. But there have been moments when she didn’t think she would live to see another sunrise. Looking at it in this way, Greve has had thirty years of extra time.

She has worked on complex issues in international settings. Now she’s back in Bergen, working as a judge. Does she ever miss her international work?

– I don’t miss the misfortune, misery, and death of others. But I occasionally think about those parts of my expertise I don’t get to use in the Court of Appeals.

You have had a lot of power in your life?

– Yes, and power corrupts. That’s why no one should hold power for too long. You are treated like a queen, and in the end you start believing your own hype, she says, before breaking into laughter again.

– No, no. I’m just being silly, but no one is immune to the corruption of power. It’s incredibly important to be pulled down to Earth every now and then.

**An eternal optimist**

In ten years, Hanne Sophie Greve must retire from her Norwegian government job, whether she wants to or not. And she does want to. She agrees that the pension age should not extend beyond 70. But as for giving up work completely? Very unlikely.

– I wouldn’t mind working as a university teacher in a less privileged country, such as Cambodia.

If Greve has inherited enough of her maternal grandmother’s genes, the judge will have quite a few years left in her. Her grandmother rode a bike and was skiing until the ripe age of 96.

– One week after celebrating her 100th birthday, she was tired and satisfied, and died. She had wanted to celebrate her centennial and willed herself to reach that goal. I believe that a large part of the human will to live is based on hope.
Wuthering heights

The City Mountains of Bergen are typically Norwegian and covered with needle-bearing trees and birch. At least that’s what the locals would like to believe.

From the city centre it only takes minutes to reach the City Mountains of Bergen. From here you have breath-taking views of the city itself. The mountains are covered with footpaths and steep inclines for everyone from casual walkers to more ambitious climbers to enjoy. The citizens of Bergen love their mountain walks, and use the accessible City Mountains as a retreat from urban life.

With its conifers and wild nature, most locals think of the Bergen City Mountains as typically Norwegian. Unknown to most, however, is that
the City Mountains were carefully planned. The current woodland is a result of Norway’s impoverished past rather than the oil-rich nation of the present day. And many of the tree species are actually introduced from North America and continental Europe.

To a lot of people, it will come as a surprise to learn that these mountains were bare in the nineteenth century.

– On Norway’s West Coast, there really is only one natural conifer – the Scots pine. The name stems from Scottish traders, who exported a large part of the natural pine trees in the fifteenth and sixteenth centuries, explains Ole Reidar Vetaas, Professor at the Department of Geography.

Vetaas has spent the last four years researching the coniferous species that have been introduced into Norwegian nature. According to Vetaas, the fact that locals used the mountains as a pasture for grazing resulted in total deforestation.

Cover the mountains in trees!

In 1814, Norway’s constitution was adopted, and a national independence process started. At that time, Norway was one of the poorest nations in Europe.

– Norway resembled today’s developing countries. With no electricity, people were totally dependent on fuel wood for heating and cooking, and due to rapid population growth there was hardly any woodland left.
People needed to eat, and for this they needed fire and fuel, Vetaas says. As Norway entered an era of national romanticism in the nineteenth century, there were cries to restore the forests. The result was a major reforestation project where Sitka spruce was imported from the American West Coast, and mountain dwarf pine from the Alps and the Pyrenees. Or, as Nobel Prize winning author Bjørnstjerne Bjørnson put it: «Cover the mountains with trees!», thus feeding the flames of Norwegian patriotism.

The Sitka spruce grows more than 50 meters tall and can live to the ripe old age of 700 years. This American giant literally dwarfed the indigenous species.

– In a forest dominated by Sitka spruce there is hardly any undergrowth. Just a little moss and grass, Vetaas says.

Money in the bank
The reforestation process continued into the twentieth century, when Norway finally gained independence. The Labour movement also made it one of the cornerstones of its politics to cover the country in forest. School classes were engaged in the planting of forests all over Norway, and the reforestation of the Bergen City Mountains accelerated.

– Planting trees was viewed as putting money in the bank for the next generation, who could make money out of logging.

In the aftermath of Norway’s oil boom, forestry is no longer particularly profitable for most people. There are however still voices calling for the planting of new forests, but now it’s more an issue of storing carbon and doing your bit for the environment.

A mountain park
Vetaas has no issue with the greenery of the Bergen City Mountains not being indigenous to the area. He would however like visitors to know that the trees and bushes in the local mountains are a result of nurture rather than nature.

– It’s been intriguing to get an overview of what really is growing in our mountains. Most people probably believe that it is all created naturally, but I believe one must tell people that the City Mountains, and particularly the Fløyen mountain, are actually a park with over 12 different needle trees planted along the walking paths.

Hypothetically speaking, Vetaas believes that it would be possible to get rid of the entire imported conifer population in these mountains. In this case, birch trees would naturally take over within 20 years, and the Scots pine would dominate in half a century.

– This would however be an unbelievably expensive project, and I doubt that many politicians would argue for this type of use of public funds, he says.

Vetaas himself loves to visit the City Mountains, both as a private person and professionally, as there is always something new to discover for the curiously minded.

– I love to cross Vidden, the plateau between the mountains of Fløyen and Ulriken. When I’m up on the mountain, I feel elevated – both mentally and physically. Standing on top of the mountains looking down on Bergen, I always think: what a beautiful city this is! Very few cities have such amazing scenery.
The Wire: a visual novel

When Erlend Lavik decided to make a video essay about «The Wire», he found that his work reached a much wider audience than a traditional essay in an academic journal.

The American television series The Wire has long been a darling of academics worldwide, and has been on the curriculum in courses in disciplines as diverse as sociology, literature, and law studies. So far, however, very few have analysed the visual aesthetics of the series, according to Erlend Lavik.

Lavik is a postdoctoral fellow at the Department of Information Science and Media Studies at the University of Bergen (UiB). In early April he posted a video essay about the series on the video sharing site Vimeo. It has had close to half a million hits and some 60,000 people have so far viewed the entire video.

– The response has been overwhelming. It’s almost become a full-time job just to respond to inquiries, Lavik laughs.

In his essay, Lavik portrays the series’ visual aesthetics as simple, subtle, and documentary, with a minimum of flashbacks, slow motion, and «dream sequences».

– The visual style has been slightly neglected when discussing the series. Some have dismissed the series’ aesthetics as irrelevant. And yes, the style is sparse and the series creators tried to avoid a more self-conscious, cinematic look, Lavik admits. – But in the video essay, I explore how this mix of traditional cinematic techniques and a more documentary style come together.

Pointing out the political edge

Why do you think the visual aesthetics in The Wire have received scant attention from academics?

– In part because the series has an aesthetic style that doesn’t appeal to the refined taste of many film scholars. Also, the series’ obvious sales point is its political edge. The politics of The Wire fly in your face. And I do agree that this is the series’ strong point, Lavik says.

That said, Lavik believes that the visual style underlines the political edge and highlights what draws most viewers to the series – the characters, the plot, and the dialogue.

– The style is unflashy, discreet, and has no obvious autonomous value. With no dominant visual style upfront, the series puts issues other than pure aesthetics at its centre, he points out.

Lavik has previously written two academic articles about The Wire. In the first, he dealt with the series’ intertextuality and how the series refers to other pop-cultural phenomena, such as the Western genre. In the second, he discussed how the series draws on the «unfashionable», such as using the 4:3 format and the presentation of the series as a visual novel.
How your genes can solve obesity

What roles do diet and genetics play in the development of obesity and diabetes? The answer may be found in a Norwegian study of mothers and children.

Obesity in children is a growing problem. This is a fact that paediatrician Pål Rasmus Njølstad is reminded of daily when arriving at work at the Department of Paediatrics at Haukeland University Hospital.

– Norway increasingly emulates the United States. Today, one in four Norwegians is obese, and one in twenty has type 2 diabetes, says Njølstad, who in addition to working as a paediatrician is also professor at the University of Bergen’s (UiB) Department of Clinical Medicine.

High-risk research
It turns out that some of the genes associated with type 2 diabetes are also associated with obesity. Njølstad heads a research project that examines the connection between genetics and obesity and diabetes.

– We hope to contribute to an understanding of this increase in obesity. Food and an active lifestyle play an important part, but it is also dependent on family medical history and ethnicity.

Njølstad recently received 17.6 million Norwegian kroner through a so-called advanced grant from the European Research Council (ERC).
One in four Norwegians is obese, and one in twenty has type 2 diabetes.  
Professor Pål Rasmus Njølstad

These grants are provided to exceptional established research leaders to pursue groundbreaking, high-risk projects that open new directions in their respective research fields.

Norway’s unique archives
When looking for genes, the UiB researchers have a powerful tool thanks to the Norwegian Mother and Child Cohort Study (MoBa), in which more than 90,000 pregnant women participated between 1999 and 2008. In the study, both biological samples and survey data were collected as early as week 17 of pregnancy. More than 70,000 budding fathers also participated in the survey.

– Norway’s material is unique. While American studies can be socially selective, studies such as ours are based on a population with a much smaller degree of selection. The surveys are also carefully done, Njølstad says.

Another aspect that contributes to the uniqueness of the Norwegian archives is that they can be cross-linked, which means that the data can be validated against vital records, such as birth records.

In Njølstad’s project approximately 60,000 MoBa samples are reviewed. Extensive genetic analysis of the material will be carried out to look for gene variations that recur in the obese.

Internationally recognised
Even before being awarded the ERC grant, the diabetes group at UiB had distinguished itself. The group was set up in 1997, and in 2001 an article was published in the New England Journal of Medicine on glucokinase deficiency, a particular type of diabetes that affects newborns.

Later the group charted a new diabetes syndrome and published the findings in the journal Nature Genetics. This was the result of full-time research for four of Njølstad’s staff for five years.

The group has also demonstrated that a certain type of childhood diabetes can be treated with tablets rather than insulin, and published the finding in Diabetes and the New England Journal of Medicine. This has changed the everyday lives of thousands of children around the world.

– When you make discoveries such as this, you feel you’re doing a good job as a doctor, as well, Njølstad says with a smile.

Eat less, exercise more
Njølstad hopes that the research project will provide more information about how people become obese, and how to help people early in life.

– We don’t always know if there are health benefits in a lot of the food that is produced today, and what they might be. But what interests us the most working on this project, is the connection between exercise and obesity genes. Hopefully our research can lead to treatment in the future, Njølstad says, before uttering a word of caution. – So far, we have not been able to stop this epidemic, even though we know that what is needed is more exercise and less food.

From the autumn of 2012, Njølstad will be at Boston’s Broad Institute, which grew out of research environments at Harvard and the Massachusetts Institute of Technology (MIT), and is one of the world’s leading research environments in genetics, diabetes, and common diseases. Njølstad hopes that his work can be of help to the growing number of people who are diagnosed with diabetes every year.

ERC grants at UiB
Advanced grants from the European Research Council (ERC) are awarded to researchers working on projects that are highly ambitious, pioneering, and unconventional. In addition to the project headed by Njølstad, four other UiB projects are recipients of ERC grants.

Advanced algorithms
Have you ever been told by your car’s GPS to continue down Main Street, when you know that turning right is a short cut? This is an algorithm at work. Professor Fedor Fomin and the Algorithms Research Group develop new mathematical theories to provide better algorithms.

Organisms in the ocean
There are millions of viruses and other organisms in a litre of water, and the interaction between them is complex. The research group Marine Microbiology, headed by Professor Frede Thingstad, is working toward a better understanding of the complexity of how organisms in the ocean interact.

Voices in your head
Schizophrenia can make you hear voices, but where do these voices come from? That is one of the questions Kenneth Hugdahl and the Bergen fMRi Group try to answer. The group’s work focuses on brain activation studies related to a broad spectrum of cognitive functions. On page 27 you can read more about the iPhone app the group has developed.

Early man’s symbols
The TRACSYMBOLS project, headed by Christopher Henshilwood, looks at how environmental changes influenced key behavioural features of Neanderthals and early Homo sapiens in Europe and southern parts of Africa. Read more about the project on pages 46–47.
Professor of medical ethics Ole Frithjof Norheim and his colleagues in Bergen have signed an agreement on the project Disease Control Priorities with a research group at the University of Washington. According to Norheim, the Institute of Health Metrics and Evaluation in Seattle greatly influences priorities in global health. Taking ethical considerations into account is a relatively new phenomenon in health research. Norheim leads a UiB interdisciplinary group in medical ethics, that consists of philosophy, economics, and medicine researchers.

Latin America

The plight of Latin America’s poor

In 2011, UiB Global and CROP (Comparative Research Programme on Poverty) hosted the conference Social Movements in collaboration with the University of South Florida in Tampa. This was the first conference of its kind to bring together academics, NGOs, and popular movements to discuss new forms of governance that are on the rise in Latin America, and in particular how these changes affect the impoverished masses.

Iceland, Denmark, Sweden

Vefordabók fyrir alla – a new Scandinavian dictionary

In November 2011, the Icelandic-Scandinavian dictionary ISLEX was officially opened with a celebration at the Nordic House in Reykjavik. The dictionary is a collaboration between the University of Bergen and education and research institutions in Denmark, Sweden, and Iceland. The dictionary has approximately 50,000 entries with translations of Icelandic in Danish, Swedish, and Norwegian. Next up is inclusion of the Faroe Islands, with Faroese the next target language.

Burkina Faso, South Africa, Uganda, Zambia

Saving infants from HIV

The PROMISE POP project in four African countries aims to prevent HIV transmission from mother to child during breastfeeding. The medical researchers give a preventative HIV drug to infants in the first year of life. Professor Thorkild Tylleskär at UiB’s Centre for International Health (CIH) heads the project. The study is currently in progress, and 1,500 mothers with children participate in the project.

Malawi

Building political science in Africa

UiB’s Department of Comparative Politics recently completed a four-year collaboration with Malawian political scientists as part of two Norwegian development programmes: NUFU and NOMA. The UiB researchers have built a two-year master’s programme in comparative politics at Chancellor College, University of Malawi. Two groups of 20 students were admitted, and all 40 graduated as scheduled. The collaboration also led to the first book on political science written from a Malawian perspective.

United States

Transatlantic cooperation

Ole Frithjof Norheim and his colleagues in Bergen have signed an agreement on the project Disease Control Priorities with a research group at the University of Washington. According to Norheim, the Institute of Health Metrics and Evaluation in Seattle greatly influences priorities in global health. Taking ethical considerations into account is a relatively new phenomenon in health research. Norheim leads a UiB interdisciplinary group in medical ethics, that consists of philosophy, economics, and medicine researchers.

**Russian judicial exchange**

In 2011, a delegation from UiB's Faculty of Law visited the prestigious National Research University, Higher School of Economics in Moscow, and signed a letter of intent for future cooperation. This includes student exchange, research collaboration, and teacher exchange programmes. In the autumn of 2011, the Faculty of Law sent its three first exchange students to Moscow, and the partners look forward to expanding their cooperation in the future.

**Syria**

The eternal beat of Palmyra

In 2011, a group of archaeologists led by Christian Meyer from UiB visited Palmyra in Syria. Their fieldwork included the recording and measuring of tombs, settlements, military installations, and irrigation systems. The archaeologists documented 21 villages. This was the third and final fieldwork on the Palmyra project, a Syrian-Norwegian cooperation, which looked at relations between the ancient desert town of Palmyra and its hinterland, from prehistoric times to the Early Islamic period.

**India**

Snow melting in the Himalayas

UiB’s Bjerknes Centre for Climate Research and India’s TERI hosted a side event at the annual Delhi Sustainable Development Summit in India in February 2012. This was the start of a research collaboration to predict how climate change will influence water resources in India. 1.5 billion people depend on water from the Himalayas. The researchers will study changes in monsoon patterns, rainfall, and melting of glaciers in the Himalayas, and develop regional climate models for India.

**Bangladesh**

Aquaculture ethics

Three researchers from UiB's Centre for the Study of the Sciences and the Humanities visited Khulna, Bangladesh in March 2012 for a workshop with local shellfish farmers. This is part of the SEAT project, which aims to improve the dialogue between European consumers and the aquaculture industry in Asia. The goal is a more sustainable and ethical trade. In the workshop, the researchers presented European consumers’ views on the import of seafood products from Asia, and led discussions about how local producers can raise their standards.

**Japan**

Japanese Polar Research

In 2011, UiB’s Deputy Rector Berit Rokne visited Japan’s national institutes for Polar Research, Space and Astronautical Science, and Advanced Industrial Science and Technology. UiB was part of a larger Norwegian delegation. The objective was to strengthen Norwegian research collaboration with Japanese institutions. In 2003, Japan and Norway signed a research and technology agreement, in which stimulating the exchange of students between the two countries is a stated goal.
Norwegian law in the global arena

The world outside is knocking on Norway’s door. This creates new and challenging issues for legal professionals that will change the legal landscape in the next few years. [Text: Kjerstin Gjengedal]

UiB’s Research Group for Criminal Law and Criminal Procedure is working on a number of projects to identify what happens when national criminal law must adapt to outside forces, yet retain its legitimacy and remain consistent on the national level.

One subject that has been discussed by the UiB researchers is the question concerning criminalisation of preparatory acts. This question has been the focus of new attention in the aftermath of the terrorism attack in Norway 22 July 2011.

National vs. international

Jørn Jacobsen is postdoctoral fellow at UiB’s Faculty of Law and winner of the Nils Klim Award for young researchers. He believes that if we use criminal law too extensively to control individuals, we may end up with a society of disempowered citizens.

– Society is built on trust. Citizens are entrusted with the capability to decide what is right and wrong. In a world where the law doesn’t allow any scope for people to find out for themselves what is right and wrong, society will not create responsible people, says Jacobsen.

In the project Theory in Practice: Risks and Responses in Criminal Law, the potential legal consequences of the so-called «high-risk society» is being studied. Jacobsen and Associate Professor Linda Gröning lead the project. What happens to criminal law in a society that becomes risk-averse and more focused on crime-prevention measures?

– Criminal law has always had a complex relation to risk. It has sought to deal with some of the most important or manifest risks, while it at the same time has been restricted in regard to more general or common societal risks. With the current awareness of and emphasis on risk, there is a corresponding drive towards extending criminal law into new spheres. The question is how one rationally can restructure criminal law in this regard without coming into conflict with the important values that have motivated the traditional solution, says Gröning.

Corporate whistleblowers

Beyond the questions faced by criminal law, there are sectors of society where more ambivalent standards prevail. International trade is one such area. PhD candidate Birthe Eriksen studies corporate governance and uses whistleblowers as an example of changes ahead. She
points out that whereas Norwegian legal research culture has traditionally been more orientated towards a European tradition, her research theme is more influenced by Anglo-American legal culture.

– Legislation on whistleblowing was regulated early in the United States and Britain. Hence, legislation there is more advanced than in continental Europe. One such example is Britain’s Public Interest Disclosure Act of 1998. In Norway, the right employees have to warn about wrongdoing in their workplaces wasn’t included in the Working Environment Act until 2007, says Eriksen.

There is a growing consensus in Norway and elsewhere in Europe that companies must be made responsible for matters that influence society at large. In a globalised world, the debate on corporate social responsibility influences national legislation as well.

It is increasingly common for legislation to set objectives for organisations, but to leave it to the companies themselves to figure out how to meet these objectives. Today, business managers need to navigate a myriad of legal and non-legal norms to meet stakeholders’ expectations.

**Opaque laws**

Whistleblowers can play a key part in safeguarding shareholder and stakeholder interests by uncovering unacceptable conditions. But how whistleblowing as a regulatory mechanism works in practice is still quite unclear.

– Whistleblowing has not been a focus of Norwegian research, yet there is a great need to define our legal regime in relation to the international debate. In the US and UK, the courts and government have more expertise in these matters, says Eriksen.

According to Eriksen, Norwegian law is more focused on the traditional relationship between employee and employer concerning the employer’s freedom of speech versus her loyalty towards her employer, than it is on whistleblowing as a regulatory mechanism. There should be more focus on shareholder and stakeholder interest in the consequences of whistleblowing. Eriksen believes this will strengthen democracy and make big business more accountable.

Eriksen also questions whether the Working Environment Act is the best framework for developing whistleblowing law.

– There are a number of issues, rules, and mechanisms that have
implications for the topics of corporate governance and corporate social responsibility. The biggest challenge now is to handle the totally new ways in which private and public law interact, she says.

The legal rights of «the others»
Another feature of the last few years is the increase in immigration. This, combined with the financial crisis, has sparked a growing debate about the future of the welfare state. This is being researched in the project Provision of Welfare to «Irregular Migrants» (PROVIR), where legal experts and social scientists work together to study the legal position of so-called illegal immigrants and how they are treated in different countries.

– Some people have always been on the margins of society. But with the growth of the modern welfare state, the differences between those on the inside and those on the outside has become more urgent, says professor Karl Harald Søvig.

The legal experts involved in the project are primarily looking at national and international rules for welfare benefits – such as health care – provided to irregular immigrants. They are also exploring underlying political and legal values behind legislation.

Cleaning up the regulations
– What is so exciting about this project is examining all the contrasting regulations in this field. Whereas human rights legislation is more concerned with the rights of immigrants, the EU is also concerned with protecting its geographical area against unwanted immigration, says Søvig.

– The European Convention on Human Rights, which is incorporated into Norwegian law and takes precedence over national legislation, has no specific provisions about this, and the European Court of Human Rights has few cases on the topic. It is mainly concerned with classic political and civil rights.

All this makes it hard to define which rules and laws really apply in each case.

– There is broad agreement about protecting the rights of children. Where adults are concerned, each European country has quite a lot of freedom to set its own standards for what social welfare benefits to offer immigrants. This is why we see growing reluctance in many countries to ratify conventions that provide widespread rights to certain groups in society, says Søvig.

One thing is sure: both Søvig and his colleagues will have enough challenges in the next few years when it comes to looking at how Norwegian national law is affected by the growing internationalisation of society.
Hearing voices

An iPhone app developed in Bergen is helping schizophrenia patients block the unwanted voices they hear in their heads.

In the autumn of 2010, Josef Johann Bless was listening to music on his iPhone when he suddenly had an idea.

– I was listening to a number of instruments, and as the sounds of the instruments were distributed differently to each ear, it struck me that this was very similar to the dichotic listening tests we routinely use in our laboratory. In dichotic listening, each ear is presented with different syllable sounds, and the listener must identify which syllable seems clearest, says Bless, who is a PhD candidate at UiB’s Faculty of Psychology and a member of the Bergen fMRI Group, headed by Professor Kenneth Hugdahl.

Inspired by what he was hearing, Bless set about thinking how he could put his observation to good use. The idea he came up with was cunning in its simplicity, and very modern: an iPhone app called iDichotic.

– Generally speaking, dichotic listening is a test of language processing and of attention. For most people, language processing takes place in the left half of the brain, but for a minority it happens in the right half. The test determines this. In addition, the test measures attention when the task is to focus on one ear at the time, Bless explains.

A field experiment

After a year’s work, iDichotic was launched on the App Store, where it can be downloaded for free.

– The app that’s available in the App Store is not the one we use for clinical purposes, though. It’s more of a field experiment, where we get members of the general public to test our app. They can then opt to send their test results to a secure database that the university has set up for us, says Bless.

The success of iDichotic and the attention it has brought to their work has not however distracted the researchers from their main goal: to help patients who suffer from schizophrenia.

– Whereas iDichotic is aimed at a general audience, we have developed a special practice version of the app. This is used to train patients and to help them improve their focus, so that when they hear voices, they are better able to shut these out and instead focus on other sounds. We’re working on a clinical application of the app, the researcher says.

New options

According to Bless, the feedback from people who have tried iDichotic has been important for the development of the clinical app.

– The app has given us new options. In the past, patients had to visit our research facilities in Bergen and be tested here. Now we can visit the patients at home with the app on an iPhone and do tests, Bless says.

The Bergen fMRI Group

– The group is an interdisciplinary research group at UiB and Haukeland University Hospital.
– fMRI is short for functional Magnetic Resonance Imaging.
– A particular focus for the group is the study of auditory hallucinations in schizophrenia, and dichotic listening studies of cognitive control.
– Recipient of a European Research Council (ERC) Advanced Grant through professor Hugdahl.
Local forum, global issues

This year the Bergen Summer Research School takes place for the fifth time. We traced the roots of the summer school with founding mother Kjersti Fløttum.

The first Bergen Summer Research School (BSRS) was held in the summer of 2008. The brainchild of former vice-rector at the University of Bergen (UiB), Professor Kjersti Fløttum, it had 128 participants and was a roaring success. It sparked an immediate interest amongst scholars concerned with a range of issues relating to the rapid globalisation of the last few years.

Over the intervening years the number of applicants has risen, even though this year the BSRS is fairly scaled down compared to previous events (read more on page 30). Scaled down in size, that is; not ambitions or scope.

- Ever since the first BSRS, we have received requests from all over the world. People ask what the themes will be the next year, and when they can apply. There’s no doubt that we have struck a chord with our summer school, says Kjersti Fløttum when we meet in her office at the Department for Foreign Languages.

Interdisciplinary forum
One of the main aims of the BSRS has always been to encourage more contact between the University of Bergen’s own doctoral graduates with students and young scientists from around the world. Fløttum puts the success of the BSRS down to the fact that the courses offer unique meeting points for students and young scientists from different geographical boundaries and scientific disciplines.

- It’s a wonderful experience for young researchers to meet like-minded souls from around the world, who are on the same academic level as themselves. This is why we have worked hard to balance graduates from different countries on all courses. We have received a lot of feedback from former participants, and what they particularly like is that the BSRS is such a naturally multidisciplinary forum. We believe this is important to stimulate dialogue on the global issues that are at the heart of the BSRS, says Professor Fløttum, who was in charge of the summer school during its first four years.

Every year, the BSRS has offered an overarching theme of a global nature. In 2008, the BSRS put global poverty at the top of the agenda. The following year saw discussions of climate change, the environment, and energy-related topics. In 2010, global health was the focal issue, and last year the main theme was Norms, Values, Language, and Culture.

- We started with a four-year plan, with an overall goal to focus on major global challenges. But we have divided the topics among different disciplines and faculties at
UiB, although there are a number of topics that naturally have been touched upon year after year, Fløttum explains, before mentioning climate change as one obvious subject that popped up on a regular basis.

**Raising awareness**

The BSRS has for the most part been about bridging the gap between the affluent West and North, and the largely more impoverished Southern Hemispheres. By sharing knowledge, Fløttum believes that a new generation of researchers can gain perspectives that would not otherwise exist.

- It’s important that we have a dialogue about our shared global challenges. We may not find solutions to everything, but we develop new and valuable perspectives, she suggests.

- She would also like to stress that even though the BSRS was initiated by UiB, it has always been a joint enterprise with the University’s local academic partners: the Norwegian School of Economics (NHH), the Chr. Michelsen Institute (CMI), Bergen University College (HIB), and Uni Research.

Although Fløttum departed as chair of BSRS after last year’s event, she is crystal clear about what elements should be kept in the future.

- The BSRS’s meeting point between North and South needs to be retained and developed further. This is a unique feature of the BSRS that has resonated with the participants.

- The fact that young people from the wealthy world face youth from less-affluent parts of the world adds value to the event. Moreover, I believe that the interdisciplinary aspect creates an openness and reduces boundaries, and as such is an essential part of the BSRS experience, she says.

**Globalisation deconstructed:** The Bergen Summer Research School is an interdisciplinary forum, where issues of globalisation, such as poverty, are discussed. Photo: Colourbox

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“Climate Change Narratives was a great course where climate knowledge was discussed from different perspectives. The Bergen Summer Research School not only gave me academic insights, but also provided an opportunity to share ideas with participants from other parts of the globe, including South and North America, Africa, and Europe. I also enjoyed hiking to the top of the Bergen City Mountains.”

**Ganesh Raj Acharya, Nepal**

“Participating in the BSRS was not only a positive intellectual challenge that showed how interdisciplinary communication can benefit the understanding of different academic projects in a broader methodological perspective. It was also a great opportunity to discuss why the cross-cultural context is so important for reconsidering the complex nature of the global development challenges that requires both professional and personal involvement.”

**Silvija Serafimova, Bulgaria**

“It was a refreshing experience in how to do academics. Not only were we drilled in the various classes and seminar sessions, but had wonderful social experiences as well. I am grateful to Kjersti Fløttum for the invitation and the organisation of the Bergen Summer Research School.”

**Emmanuel G. George, Liberia**
Globalisation has always been at the heart of the Bergen Summer Research School (BSRS), and this year’s event is no different.

– We are interested in looking at subjects such as transnational migration flows, problems related to emigration and immigration, and the relationships immigrants have to their home countries and the diaspora, says Mette Andersson. – There will be a transnational perspective regarding economic, cultural, social, and political aspects of migration flow.

Andersson is scientific coordinator for BSRS 2012 and professor of sociology at the University of Bergen (UiB). She heads a scientific committee of ten people, who have spent the last year preparing the programme for BSRS 2012.

– As in the past, this year’s BSRS will represent a meeting point between the South and the North, and we work hard to make the workshops as interdisciplinary as possible, Andersson says.

Four workshops

There will be four workshops in this year’s BSRS, which deals in various ways with the overarching subject of transnational migration.

In its first four years BSRS took place over a two-week period, with the writing and presentation of papers as an integral part. This year’s BSRS takes place over three content-packed days, with papers submitted beforehand.

– It is less of a school this time and more of a PhD research conference, Andersson admits. – But it is still about dialogue with the students, and gives them an opportunity to discuss their writing.

According to Andersson, 38 PhD students have been admitted to this year’s courses. She is intrigued that the organisers have once again been able to draw talented students from all over the world.

Fueling discussion

To aid students from poorer countries, the BSRS always sets aside resources to allow students to apply for grants that cover expenses such as travel and accommodation.

Andersson believes that this is the very key to getting a group of students as diverse as possible, thus fueling discussion and creating debates that represent different cultural, social, political, and religious viewpoints.

In addition to the four workshops, there are five keynote speakers who will give lectures on subjects related to the main theme. The keynote discussions are open to the general public, as is a public meeting, which is co-organised by the BSRS, the City of Bergen, and the Bergen Chamber of Commerce and Industry. This is part of the summer school’s commitment to building bridges between academia and the outside world.

"The BSRS promotes an environment where participants are encouraged to go on intellectual adventures, while remaining grounded in the challenging and pressing problems that the school addresses: health, poverty, and sustainability. For me it was this dual focus on intellectual exploration and problem solving that set this experience apart."

Manisha Anantharaman, India
Animal magic

The University Museum of Bergen lies at the heart of UiB. A precursor to the university itself, the museum has always held a dear place in the hearts of the citizens of Bergen. For this issue, we asked award-winning Norwegian photographer Knut Egil Wang to bring the animals of the museum’s natural history collection to life.
The Russian language enters a new world

The political turmoil in Russia in the nineties was followed by a digital and linguistic revolution. Now President Putin wants to reclaim the language as a tool of power.

New media technology has changed communication and language worldwide. In Russia, the technological revolution has taken place in an era of dramatic political and social change, with an even bigger impact on the Russian language.

– Following Perestroika and the newfound transparency, language norms were challenged and transformed. The nineties were a turbulent and chaotic time in Russia. Many voices engaged in debate, and this triggered language campaigns from a number of institutions, says Ingunn Lunde.

Technological revolution
Lunde is professor of Russian at the University of Bergen (UiB) and heads the research project The Future of Russian: Language Culture in the Era of New Technology. This interdisciplinary project brings together researchers from fields as far apart as new media studies, linguistics, literary sociology, and digital culture.

– It is a vast field. In short, we look at how language acts and evolves under the influence of new technology. We are dealing with a dynamic relationship: social and linguistic practices are shaped by, but also shape new forms and forums of communication, she says about the project, which succeeds a previous project, Landslide of the Norm.

– Internet language is our main focus of research. Linguistic usage on the Internet is often spontaneous yet defined by written norms.

From order to chaos
In the Soviet era, before technological advances gained momentum, the Russian language was subject to a rigorous doctrine, and most writing followed codified standards. Perestroika turned the language norms upside down.

A Twitter message; using Cyrillic letters (top), the original in Latin letters (middle), and translated into English (bottom).

This is a genuine piece of text taken from Twitter. It is written in Latin script, in what is known as translit, an ad-hoc transliteration from Cyrillic to Latin script. The use of numerals to represent letters is particular to digital Russian. Russian is different from English in that numerals represent letters (the numeral «4» represents the Cyrillic letter «ч», often transliterated as «ch» as in «Chekhov»). In English SMS language, numerals generally represent words or morphemes («2» for «to», as in «2U» = «to you», «2gether»).
stroika turned the language norms upside down.

– Writers started using profane language, a previous taboo. English words also became more common, says Martin Paulsen, postdoctoral fellow and one of the researchers on the project.

In his PhD project, Paulsen has studied how critics reacted to the linguistic antics of the nineties.

– The nineties were a period when things were out of balance and when people were looking for fixed reference points, he says.

Language play
Lunde has been particularly interested in how language is discussed on the Internet.

– The actual arguments are not necessarily expressed outright in the debate, but may be found in the way you speak or write. This is what I call performative meta-language. On many Internet forums, people put their language on display. The visual aspect plays a major role, and you see quite a lot of linguistic play, she says.

How mobile use changes language
Internet use and social media participation is high in Russia, in particular amongst youth in St. Petersburg and Moscow.

In his current project, Paulsen has researched how mobile phones influence the Russian language. In the early days of SMS technology, only a few mobile phones had support for the Cyrillic alphabet, thus necessitating the use of the Latin alphabet. Many Russians still use the latter today, as more characters fit into a standard text message: 160 Latin vs. 70 Cyrillic. This has an impact on the language of the individual.

– The Russians have been used to a highly-standardised language, with spelling norms taken straight out of the dictionary. It is exciting to see the linguistic diversity created by texting, and how individual spelling is generated from writing Russian with Latin letters, he says.

Putin takes control
In the Internet’s infancy it was not possible to write Cyrillic letters in URLs on the web. But as Vladimir Putin gained more and more power, he decided to fight the influence of the Latin alphabet.

– Using Cyrillic characters in URLs became a prestige project for Putin and his associate Dmitry Medvedev. The first domain names in Cyrillic letters were president.rf and the government’s home page. This was a clear symbol of state intervention in language policy in relation to technology, Paulsen explains.

In 2007, Putin and his political partners decided to step up their interest in language as symbolism one more notch by declaring this the Year of Russian Language.

– The reign of Putin points towards qualitative differences from the chaotic nineties. This fits with the media’s portrayal of the political processes in Russia, and our research project shows that this also reflects itself in the official language policy. Putin has shown an obvious desire to clean up the Russian language, Paulsen says.
Fighting the salmon parasite

As one of the world’s leading aquaculture nations, Norway has an international obligation to improve health conditions for salmon.

Salmon farming has become a major industry in the last few decades, and the volume of farmed salmon has increased tremendously. Unfortunately, the same can be said of the presence of the salmon louse, the most important sea lice species and one of the main disease problems in the industry. This problem has increased greatly in recent years. In 2011, the Sea Lice Research Centre was established in Bergen. The research centre’s main task is to gain more knowledge about the salmon louse, which in turn will lead to better tools to control the lice problem.

More salmon equals more lice
– One major reason for the increased problem with sea lice is that the lice are developing a resistance to certain common drugs. This has financial implications for the industry, creating the demand for new measures. More lice on farmed salmon also create problems for wild salmon, which is something we wish to avoid. This is why we need to keep strict control of sea lice in fish farms, says Frank Nilsen, Professor of Biology and head of the Sea Lice Research Centre.

The salmon louse is a parasite that feeds on salmon, and mainly eats skin and blood. The damage caused also increases the fish’s sus-
ceptibility to other infections. For years, Nilsen and his colleagues have worked on sea lice research, often in close cooperation with the industry. The Sea Lice Research Centre will primarily study the salmon louse and other sea lice species, but will also look into the salmon’s defence mechanisms against these parasites. One of the researchers’ prime goals is to develop a vaccine against salmon lice.

— Sea lice occur naturally at sea, and are used to adapting to situations where hosts are few and far between. When there is a growth in the quantity of fish, which is happening now due to the massive growth in fish farming, the parasite thrives. The result is more sea lice and a greater capacity for infection, Nilsen explains.

Hard to combat
The salmon louse is tough to get rid of, as it is a complex organism with a great capacity to adapt to new situations.

— Unlike simple bacteria, the salmon louse is an advanced animal with almost the same number of genes as a human. This makes these parasites hard to combat. There are parallels in agriculture, where you find that parasites create the disease problems that are hardest to control, he says.

The University of Bergen (UiB) is the host institution for the Sea Lice Research Centre, which is run with partners from both research and the industry. The centre has status as a Centre for Research-based Innovation (CRI), a scheme designed to enhance technology transfer, internationalisation, and researcher training. The scheme also promotes innovation by supporting long-term research through cooperation between business and research groups.

Sharing in research
— To control the salmon louse problem, we take a multifaceted approach. For instance, we are looking into additives used in animal feed and the development of vaccines. With the help of our partner institutions, we have access to people with expertise in similar research in related fields. In this way, we can draw on a broader field of knowledge, Nilsen argues.

Another priority of Nilsen and his team is to improve the methods for diagnosing the sea lice’s resistance to drugs. Spending large amounts on drugs makes little sense if a large portion of lice in the sea farms are resistant.

— Initially we are working with other countries dealing with similar issues to those we face in Norway. We hope to build good international working relations as we go along. We share a responsibility to improve the way the industry works. This centre is one step in that direction, and probably the largest research initiative in the world to combat sea lice.

New research in Bergen
The Sea Lice Research Centre is one of three new research centres to open at UiB in the past twelve months. The other two are the Centre for Climate Dynamics and the Bergen Centre for Competition Law and Economics.

— The salmon louse is an advanced animal with almost the same number of genes as a human. —
Professor Frank Nilsen

Bergen Centre for Competition Law and Economics (BECCLE)
With the 2006 move of the Norwegian Competition Authority to Bergen, the local research communities in competition policy have grown in confidence. BECCLE was established in 2011 as a cooperation between UiB and the Norwegian School of Economics (NHH). The centre is an academic platform for economists and legal experts who conduct research into various aspects of competition policy and competition law and economics, both in a Norwegian, a European, and a global context.

Centre for Climate Dynamics (SKD)
What causes climate to change? Can climate be predicted in a way similar to weather forecasting? At the new Centre for Climate Dynamics (SKD), scientists apply the knowledge of past climates in their models in order to assess the climate of the future. SKD aims to become an internationally-competitive research centre that can provide the basis for regional climate forecasting at annual and decadal scales. SKD draws upon the expertise at the internationally-acknowledged Bjerknes Centre for Climate Research.

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WEATHER REPORT: The physicist and meteorologist Vilhelm Bjerknes was born 150 years ago, and is considered to be the founder of the modern practice of weather forecasting. PORTRAIT 1946, COPYRIGHT: GEOPHYSICAL INSTITUTE, UiB
The reluctant meteorologist

Deep down, the founder of modern weather forecasting, Vilhelm Bjerknes, would have preferred to work on theoretical physics. Until he got funding for weather research, that is.

Vilhelm Bjerknes devoted himself to science from a young age. His father, Carl Anton Bjerknes, was interested in how the forces of nature, such as gravity, work. He imagined that space was filled with invisible ether, which allowed objects to exercise an influence on each other’s motion.

Carl Anton sought parallels in hydrodynamics, and Vilhelm helped him set up experiments to examine how objects interact with each other in fluids. This work received an honorary prize at the Exposition Internationale d’Électricité in Paris in 1881, when Vilhelm was 19.

Despite his hard work, Carl Anton never managed to formulate an overall superstructure for his theories. Vilhelm had to watch as his father reached an impasse in his work and he became more and more academically isolated. When Vilhelm himself became a professor at the university college Stockholms högskola, he reviewed his father’s theories, and got these published shortly before his father’s death.

- Vilhelm Bjerknes’ perception of his father’s approach to science influenced him throughout his lifetime, says philosopher Ralph Jewell, who has tried to see what entered into the forming of Bjerknes’ distinctive manner of conducting scientific research.

- Remember that Norway was still young as a sovereign state under its own constitution of 1814, and both father and son viewed science as a duty in the service of the nation. They both felt that the country’s intellectual capital had to be used properly.

A detour to meteorology
But Vilhelm found that time had not been kind to Carl Anton’s theories; the published work attracted little interest. Instead, as Vilhelm himself worked and elaborated on his father’s theories, he found that circulation and vortex motions can arise and disappear in fluids when density changes. This was soon to be known as the Bjerknes’ Circulation Theorem.

Bjerknes tested the theorem on the atmosphere, and realised that if one can form a picture of the weather at a given time (diagnosis), one can use the laws of physics to calculate the weather condition at a future time (prognosis). He had however no plans to do so himself. «My idea was [...] only to systematically work through all incoming partial problems, to reach a theoretical solution,» he later wrote.

In 1905 he gave a lecture on his vision at the Carnegie Institution of Washington. This resulted in a promise of indefinite annual financial support – that in practice lasted for about 35 years – and thus Bjerknes was tied to meteorology. He worked on the diagnosis and prognosis problem as a professor in both Oslo and Leipzig, but the First World War interrupted the work.

In 1917 he accepted a chair at the Geophysical Institute in Bergen. From that point on, his work became more
improvisational and empirical, and he was in closer contact with farmers, fishermen, and the local population.

«We were washed ashore on Europe’s most turbulent and, meteorologically speaking, most eventful coast,» he wrote about his meeting with Bergen. «[Here] our work is offered some opportunities, provided that we as pure theorists are able to expand our work to also include practical weather forecasting.»

**Fronts in the weather system**

Bjerknes set about organising an observation network in southern Norway, while his assistants studied the weather related to wind systems and temperature differences in the atmosphere. It soon became apparent that what Bjerknes called fronts in the weather system, were not, as previously assumed, exceptions, but rather a part of what was controlling the weather.

– Bjerknes was a master at locating new talent. He claimed that everything that happened in Bergen was thanks to his young assistants, and that he himself just floated around in the background. This is of course wrong, says professor emeritus Sigbjørn Grønås.

– He received funding, and was also an excellent organiser and communicator, writing articles in newspapers and magazines and talking to users of weather forecasts. He also advised his assistants on proper behaviour when they travelled the world to present the new weather forecasting methods.

**Unimaginable without computers**

Bjerknes worked with the theoretical basis of dynamic meteorology and published textbooks together with his assistants. His vision was always to calculate the weather changes.

Bjerknes’ vision required an enormous number of calculations, and ironically the greatest successes from Bjerknes’ theories have only come about in the last few decades, after the arrival of supercomputers. But Bjerknes’ methods commanded attention in their day, amongst others by local fishermen who relied more on the weather forecasts from Bjerknes and Bergen than on their own experience. Being embraced by people who worked in such close relation to nature meant a lot to Bjerknes.

Ralph Jewell believes that both Vilhelm Bjerknes and his father were characterised by a sense of duty and honour in the name of science, and hence a desire to spend their lives in a way that made a difference for others.

– Bjerknes enjoyed the success of others. Probably the most important thing he instilled in his young assistants was the freedom to make their own discoveries. In return, he received their eternal loyalty and a wish to do their very best for him, he says.
A new dental design

UiB’s new Dentistry Building can treat 400 patients every day – and is named after one of the most famous set of teeth in film history.

The Dentistry Building will officially open for the autumn semester 2012. The building combines research, education, and public dental care services. The building is called «Jaws» because of the rear part of the building, which consists of three parts, or «teeth».

WITH TEETH: The building is 15,000 square metres spread over four floors, and has been nicknamed «Jaws», because the rear part of the building consists of three parts, or «teeth». It is located close to Haukeland University Hospital.

MEET AND GREET: Space has been set aside for a mingling area on the ground floor.

COMFORT ZONE: A state-of-the-art dentist’s chair.

A BIT OF ZEN: To the west there is a small park, which is brought closer to the building thanks to two atriums that partially bisect the building.

SAY «AAAAAH!»: It may look a bit nightmarish, but these models are invaluable for dental students honing their skills on an artificial molar or wisdom tooth.
A call to global research

The University of Bergen has a long tradition of development-related research. In 2010, UiB Global was set up to further promote research efforts across disciplines into globalisation issues.

**A cademic coordinator Gro Therese Lie at UiB Global welcomes us into a modern office building, which is shared with the research centre Chr. Michelsen’s Institute, only a stone’s throw away from where Hurtigruten departs on its scenic route along the Norwegian coastline.**

– Ever since the 1960s, UiB has had prominent researchers from diverse disciplines addressing issues of relevance to global development. We like to think of globalisation as a recent phenomenon, but really, it’s something that has been progressing steadily for quite a while, says Lie, taking us back to the early days of UiB’s international work.

The roots of global studies
For Lie, development-related and global studies are rooted in the establishment in 1988 of four core centres at UiB: the Centre for Development Studies, the Centre for International Health, the Centre for Health Promotion, and the Centre for Environment and Resource Studies.

– Together, these centres formed a council for sustainable development, and later their work was integrated into UiB’s faculties. Today, development-related and global research is carried out in most departments and in all faculties at UiB, she says, pointing out that this early commitment to globalisation gives UiB a certain edge in the future.

UiB has a long-established history of collaborating with partners in Africa, Asia, and Latin America. Hundreds of students from these areas have studied at UiB.

– UiB alumni worldwide create a rich network for future global research collaboration, Lie points out. Research collaboration across geographical boundaries is very important for addressing global development challenges.

– But it hasn’t always been easy to maintain academic ties with a wide range of partners across all continents.

**Shifting conditions**
She particularly mentions rapidly-shifting conditions in terms of political power balance, climate and...
ecological change, diverse globalisation processes, and dependency on international financial and political institutions.

Such conditions sometimes make independent critical research difficult, she admits, before adding that the current global financial crisis has made it harder to get some global research projects off the ground, citing funding cuts in a number of countries since 2008.

She is however optimistic about the future of UiB Global. The strength of UiB Global lies in the potential for synergies across academically strong disciplines and faculties. Creating activities of interest across disciplines may trigger an interest in addressing global research in new ways.

I believe it is important for a university such as ours to maintain its priority of addressing global development-related research issues on a broad basis, she says, pointing to the interdisciplinary work that is being done at UiB.

One of our aims in the next few years is to function even more as an initiator for global development research at UiB. Not only are we working harder to integrate work done at various faculties, but we are also working to establish the Bergen Summer Research School as a key factor in our international work.
Symbols in a cave

Archaeological finds in South Africa shed new light on early human’s abilities to adapt to climate change.

When Christopher Henshilwood developed a new understanding of human-kind’s early history, he was really looking for something else.

He wasn’t looking for proof that 100,000 years ago, humans could make paint out of ochre and store it in pots for later use. He certainly wasn’t looking for signs that humans at that time communicated with symbols, 60,000 years before the earliest similar findings in Europe.

Nevertheless, that’s what he found.

Early days, sleeping rough
When Henshilwood first encountered Blombos Cave, it seemed anything but spectacular.

A rangy South African, Henshilwood had spent the summer of 1991 walking the coastline he knew from growing up nearby. He was looking for archaeological sites for use in his PhD work at Cambridge University, driving out in his battered old Range Rover for days at a time, scrambling up steep cliffs and lowering himself into cave mouths. Wanting to keep equipment to a minimum, Henshilwood slept rough those weeks, in a sleeping bag, gazing up at the South African skies.
The cave mouth at Blombos is about 35 meters above sea level and a steep climb from the rocks below. The entrance was only a meter high, so Henshilwood had to get down on his knees to crawl into the gloomy cave. Plunging his hands into the sand, he found several sorts of sea-shells – all edible, such as abalones, periwinkles, gastropods, mussels, and limpets – which meant that humans had once stayed there.

He later discovered, after formal excavations had started, that buried even deeper in the yellow sand were spear points and bone tools from the 75,000 year old mid-Palaeolithic Still Bay period. Knowing that he didn’t have the time to deal with this find in his PhD, Henshilwood decided to return later. In 1997, he did.

Identity in the Stone Age

— At that time, nobody knew how old the Still Bay was, and no one had done any work on it for forty years, says Henshilwood.

His findings soon sparked a new interest in the Still Bay period. Where some researchers had even questioned its existence, the period suddenly looked a hotbed of activity. Abstract engravings and sophisticated bone tools were only part of the findings in Blombos Cave, along with beads used for personal decoration. In the Still Bay period there were maybe 7,000 Homo sapiens in the whole world.

— 100,000 years ago, people were capable of complex behaviour and language. If you can’t communicate, then the symbols would have no meaning. Symbol use depends on a group discussing the meaning of the symbols, so language must have developed in tandem. This is quite modern behaviour in such an early stage of human history, Henshilwood says.

But then something quite unexpected happened. All traces of human symbol use disappeared.

Comings and goings

The findings disappear, at any rate. Heat-treated pressure-flaked spearheads, for example, which won’t show up again until 50,000 years later, in France. Traces of symbols appear earlier, in the phase known as Howiesons Poort, but this is still about 5–10,000 years after Still Bay.

Researchers still don’t know what this signifies. There were huge climatic changes at the end of the Still Bay period, and part of the research done by Henshilwood and his team deal with these changes and what they may have signified for Homo sapiens at the time.

Henshilwood believes that humans have a great ability to adapt to a changing climate. He has a theory that the people didn’t lose their ability to develop skills, but that the periods of high innovation disappeared.

— Perhaps there was a dramatic decrease in the number of humans. If you don’t need to communicate with other groups, you don’t need sophisticated symbols. In times of crisis you need more complex technology; at other times you just make do with what you have. Technology goes in waves, rather than a straight, upward-pointing curve, he says.

Several sites

Today, excavations are being done both in Blombos Cave and two caves at Klipdrift in the De Hoop Nature Reserve. Combining state-of-the-art climate simulations with findings along the coast, researchers hope to shed light on what really happened to the makers of the symbols.

— We are looking at all possible aspects to put together a story that seems feasible, Henshilwood says.

RESEARCHERS AND STUDENTS AT WORK: Students from Norway, France, and South Africa work alongside Christopher Henshilwood and an international team of researchers. PHOTO: TRACSYMBOLS

TRACSYMBOLS

• Research project that examines how key behavioural innovations emerged among Homo sapiens and Homo neanderthalensis in Southern Africa and Europe, and explores whether and how the environment influenced this development.

• Led by Professor Christopher Henshilwood (University of Bergen and University of Witwatersrand, S.A.) and Professor Francesco d’Errico (University of Bordeaux, France).

• Combines archaeological results, palaeoenvironmental data, and state-of-the-art climatic simulations.

• The project has received 2.5 million euros as an Advanced Grant from the European Research Council (ERC).
Maria Dyrhol Sandvik (25)
Leader 2011-2012 of the Bergen Student Society (Studentersamfunnet)
Master student at UiB’s Department of Comparative Politics

Maria grew up in the tiny village of Gursken in North-Western Norway, but after three years in Bergen she is now a self-proclaimed «city girl». We asked her to guide us to her favourite spots in Bergen.
Kvarteret
- It’s the first port of call for any student in Bergen. It’s close and convenient to UiB and you can find all types of activities in one place: theatre shows, bands playing, and, of course, this is the home of the Bergen Student Society!

Henrik øl og vinstove
- Probably the place in Bergen with the best selection of beer, including Norwegian microbreweries. This is a place where you will always run into UiB staff. Quite a few of my professors like to go here!

Landmark/Bergen Kunsthall
- I’m not really born with dancing shoes. But on the rare occasion that I hit the dancefloor, it’s probably to some electronica at Landmark. But be warned, the place is crowded with hipsters! This is also home to Bergen Kunsthall, the prime place to view street art and contemporary local art.

Verftet
- It’s a great place to go for a swim in the summer, followed by a pint by the seaside, before taking in a film classic at the Bergen Filmklubb.

Victoria
- Probably the most peculiar venue in Bergen. Local musicians meet here for drinks and the odd gig. But it’s really diverse. You are as likely to run into football fans as music buffs.

Skostredet
- If I weren’t on a student budget, I would probably buy all my clothes and accessories here. I like to call this the nicest street in Bergen!

Nygårdsgaten
- This is the street where you find Kvarteret and a lot of other places for a drink after a hard day of studying! You also find great Scandinavian clothes design in shops such as Acne, Pepper, and Twisted.

Local food
- If I really want to splash out, I will go to Hanne På Høyden, where they serve local organic food, or tiny gourmet restaurant Spisekroken. But on my budget, more often I will head to Pingvinen, where they serve traditional fare at more affordable prices. As a curiosity, I must mention that at Pingvinen they serve popcorn as night-food!

Coffee
- I always head to Blom or Kaffemisjonen if I want a decent cup of coffee.

As told to Sverre Ole Drønen
UiB facts & figures

The University of Bergen (UiB) is the second oldest university in Norway. The university was founded in 1946, but its origins go back to the founding of the University Museum of Bergen in 1825.

UiB leap in elite ratings

In the last years, UiB has climbed consistently on international rankings and is now number 121 in the QS World University Rankings. From 2005 to 2011, UiB has climbed 199 positions.

2005
Rank 320

2011
Rank 121

New doctorates at UiB, 2001-2011

In 2011, more than one third – or 89 – of the 254 new doctorates were international graduates.

Top 20 nationalities at UiB

1. Germany (220)
2. Spain (88)
3. France (62)
4. Sweden (55)
5. United States (48)
6. Russia (42)
7. United Kingdom (40)
8=. Denmark (39)
8=. China (39)
10=. Italy (38)
10=. Netherlands (38)
12. Iran (57)
13. Poland (35)
14. Nepal (28)
15. India (27)
16. Japan (21)
17=. Ghana (20)
17=. Lithuania (20)
17=. Pakistan (20)
17=. Sudan (20)

Students by faculty (autumn 2011)

- Faculty of Social Sciences: 2,951
- Faculty of Psychology: 1,597
- Faculty of Law: 2,116
- Faculty of Medicine and Dentistry: 1,724
- Faculty of Mathematics and Natural Sciences: 2,427
- Faculty of Humanities: 5,288

UiB students, all: 14,086; international: 1,549 (autumn 2011)

11%
UiB international students, autumn 2011: 1,549
**International co-authorship**

This graphic illustration shows UiB’s international collaborations based on co-authorship (2009-2010). The numbers and graphics are based on a report on international co-authorship by the librarians Susanne Mikki and Dag W. Aksnes at the University of Bergen Library.

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### Students by gender (2011)

- **United States**: 468 publications, 9.30%
- **United Kingdom**: 415 publications, 8.20%
- **Germany**: 299 publications, 5.90%
- **Sweden**: 268 publications, 5.30%
- **Rest of Europe**: 181 publications, 3.60%
- **United States**: 166 publications, 3.30%
- **China**: 114 publications, 2.30%
- **Spain**: 114 publications, 2.30%
- **Australia**: 88 publications, 1.70%
- **Finland**: 87 publications, 1.70%
- **Italy**: 82 publications, 1.60%
- **Austria**: 66 publications, 1.30%
- **Belgium**: 62 publications, 1.20%
- **Switzerland**: 61 publications, 1.20%
- **Czech Republic**: 59 publications, 1.20%
- **Rest of Europe**: 57 publications, 1.10%
- **Rest of Asia**: 54 publications, 1.10%

### Staff by gender (2011)

- **United States**: 49%, **United Kingdom**: 51%

### UiB staff (2011)

- **3,370**
A very large family

Jill Walker Rettberg is hard at work trying to bring together up to 40,000 alumni of the University of Bergen.

Professor Jill Walker Rettberg is the daughter of two University of Cambridge alumni. Growing up, she remembers her parents travelling to alumni events in Cambridge. Not necessarily to see old friends, but because «there are always so many interesting people to meet».

This may explain why the Australian-born researcher has so enthusiastically embraced alumni work at UiB. Rettberg is Professor of Digital Culture and the new chair of the alumni board at UiB. She believes that she was chosen both for her alumni commitment and her scientific and professional interest in social media.

— I'm a blogger at heart, and so I'm interested in finding the best ways to communicate with our alumni online. We have decided that it's important for UiB to have its own alumni website, even though there are short-term benefits if we were to use LinkedIn or Facebook. A dependable, long-term solution is key, and there are too many risks involved in allowing all our content and contact information to be owned by others, says Jill Walker Rettberg.

Thousands return to UiB

At the grand opening of UiB’s Assembly Hall in conjunction with Norway’s Bicentennial in 2014, there are plans for a giant event where thousands of alumni return to UiB.

But why has it taken so long to get a proper alumni programme working at UiB?

— Alumni relations are a very recent trend in Norway. It’s hard to say why. We don’t really like to brag and boast and are influenced by the «Janteloven»®, she says. — We want to promote greater pride in having a degree from a great university in a unique city.

Alumni from UiB permeate Norwegian society and can be found all over the world. We have legends such as the researcher, adventurer, and human rights activist Fridtjof Nansen, the man who discovered the cause of leprosy, Armauer Hansen, or the renowned political scientist Stein Rokkan. Amongst living alumni, there are authors such as Norway’s latest literary superstar Karl Ove Knausgård, and Jon Fosse, who is widely considered as one of the world’s greatest contemporary playwrights.

Alumni hotspot London

In August 2012, there will be a major alumni event in London.

— When looking through our alumni records, we realised that many former UiB students are based in London, so we plan to bring them together for an evening in August. Academic connections will be at the core, but the social aspects of an alumni network are important too, Rettberg says.

NEW TO THE UiB FAMILY: International students’ first meeting with UiB in January 2012.

Janteloven, literally the «Law of Jante», is a Scandinavian expression which negatively portrays and criticises individual success and achievement. It was first introduced by Danish-Norwegian writer Aksel Sandemose in his novel «En flyktning krysser sitt spor» (1933; English translation 1936: «A Fugitive Crosses His Tracks»).
Creating connections worldwide

Being a member of international organisations such as WUN brings benefits for local researchers.

When the University of Bergen (UiB) joined the Worldwide Universities Network (WUN) in 2004, the main areas for research collaboration were informatics and GRID, bioinformatics, Earth system science (ocean and earth science, climate, geosciences, biological sciences), medieval studies, and e-learning research. Since then, the collaboration between UiB and its WUN partners has only grown.

– The very reason we joined WUN was that we found partners that shared our research priorities. Together we strengthen and broaden our international research, says UiB’s vice-rector for international relations Astri Andresen, who is also a member of the WUN Academic Advisory Board.

Andresen points out that several of the global challenges singled out by WUN, which include global health, adapting to climate change, and understanding cultures, fit neatly with some of the areas in which the UiB is a world leader.

– I believe that it is critical that we are present in debates regarding global issues. We have also seen in the last few years that more and more research is conducted in groups and across borders. If you want to be an international university, you often need to be a part of networks, Andresen says, and elaborates further:

« Our ambition is to get more UiB researchers involved in scientific networks in all parts of the world. »

– You can’t sit in your office in Bergen and deal with issues related to global cultural change; you need to be out there interacting with others. Or, if we are to deal with climate change, we need to listen to the contrasting voices that come from all over the world.

Future ambitions

Over the years, UiB has chaired work on two major WUN projects: Critical Global Poverty and Development Impacts of Climate Narratives. What are UiB’s international ambitions for the future?

– Our ambition is to get even more UiB researchers involved in scientific networks in all parts of the world. Our strategy is to consolidate and improve our position internationally, Andresen says.

Andresen and the UiB leadership attended the WUN Conference and Annual General Meeting at the end of May 2012.

– Obviously, meeting the leaders from our partner universities is important – for example this year’s meeting of WUN presidents. The presidents addressed four main themes: the relationship between local and global communities, academia’s relationship to industry and international organisations, emerging economies, and finally knowledge partnerships and government politics, she says, pointing out once again that being present in these forums increases an understanding of the shared challenges faced by universities and research institutions worldwide.

– In addition to this type of meeting, it is important that researchers from all over the world meet and address the global challenges that WUN has prioritised. A common research agenda keeps a network like this together.

FACTS

WUN

• The Worldwide Universities Network (WUN) was founded in 2000.
• WUN comprises 19 research-intensive institutions spanning 6 continents.
• The WUN network is dedicated to making significant advances in knowledge and understanding in areas of global concern.
• WUN creates new, multilateral opportunities for international collaboration in research and graduate education.
• UiB’s rector Sigmund Granmo is a member of the steering group of the WUN Partnership Board.
The Eurasian eagle owl is the symbol of the University of Bergen. It represents wisdom and knowledge. Now, this most dangerous of predators is itself threatened with extinction.

Is the Eurasian eagle owl wise?

I honestly have no idea. Not that it has any reason to be wise, with its extreme characteristics, says ornithologist and UiB graduate Håvard Husebø.

In reality the Eurasian eagle owl, or the hubro as it’s known in Norwegian, isn’t particularly intelligent compared to other birds. What sets the owl apart is its clear vision and sharp hearing. But this shy bird is now endangered. The number of eagle owls is decreasing, and the maximum number is currently estimated at 500 couples. Norwegian ornithologists are worried.

Since 2008, Husebø has surveyed eagle owls in Norway’s Hordaland province for the Norwegian Ornithological Society (NOF). NOF wants to identify the size of the population in the areas where the eagle owl is most common, and are conducting the most comprehensive field research ever.

Both loved and hated

NOF are not the only ones who feel for the eagle owl. Many have been emotional about this wide-eyed bird, with its diabolical looks. The owl has never wanted for attention, sometimes at the expense of other birds, such as the rather less glamorous crows.

«The Eurasian eagle owl is the largest, most mythical, and most feared of all owls. Hated by all other creatures with wings,» the zoologist Edvard K. Barth wrote in 1958.

According to historians, people of olden times believed that when the eagle owl let its sinister scream sound in the large Norwegian forests or along the coast, it was a sign of ghosts, accidents, or other terrible things to come. The scream sounded like a person in mortal terror.

In ancient Rome people were afraid of owls, and the arrival of owls inside the city walls was an ominous sign. The Athenians however loved their owls, and on the Acropolis they were worshiped and regarded as wise and prudent – not unlike the views held of the owl in Norwegian folklore.

Electrocuted owls

The Norwegian Directorate for Nature Management (NDNM) is currently working to save the Norwegian population of the world’s largest owl. The broad-winged bird is particularly vulnerable to lethal electrical shock when it perches on power poles.

«When the eagle owl let its sinister scream sound in the large Norwegian forests or along the coast, it was a sign of ghosts, accidents, or other terrible things to come.»

The NDNM started a test project with perches, so that the eagle owl could sit safely on power poles. This project has shown some promising early results.

The perfect predator

The impressions Husebø gets when he’s able to get up close to the eagle owl on the wind-swept islands outside of Bergen, is of a majestic and...
impressive bird. But its extremely sharp senses also make the eagle owl the perfect predator.

– The eagle owl is at the top of the food chain and is omnivorous, eating everything: seagulls, crows, rodents, and sometimes even other owls! The owl will usually perch on a hilltop to get an overview. When the owl sees its prey, it will drop down, fly along the ground, and launch a surprise attack. Frankly, it is a cold-blooded assassin, says Husebø.

Husebø himself has however rarely seen the owl's bloodthirst in real life.

– I have spotted it launching a surprise attack on its prey. But the owl is a nocturnal creature, so despite all the time I spend surveying the owl population, I don't really get to see that much of it, Husebø admits.

What's in a name

In Norway, the Eurasian eagle owl is known as hubro. Its Latin name however is Bubo bubo, obviously inspired by the characteristic sound it makes. The same applies to its German popular name, der Uhu. According to Husebø, the owl's song can be heard from as far as four kilometres away.

– The owl needs to be a rough guy to survive life on the wind-swept islands on the coast of Western Norway. But it is a very shy bird and not easy to spot. Its ideal place to build a nest is usually on a rock face where humans can't easily reach it, the ornithologist says.

If the owl finds a decent spot for nesting, this spot can be handed down for generations. Some nests can be traced back to the 1800s, including some with traces of musket bullets in them. This just goes to show that the eagle owl has had its reasons for staying shy of humans.

– Like most predator birds, the eagle owl has been widely hunted. In old legends and myths, the owl has been described as the devil's helper, and viewed as demonic. Given its large eyes and plumes that look like horns, this is probably not surprising, Husebø says.
Greetings from the Rector

The University of Bergen (UiB) is an internationally recognised research university. It was founded in 1946, based on the longer academic and scientific tradition that had been developed at the University Museum of Bergen (previously the Bergen Museum) since 1825. UiB is a comprehensive university, with six faculties in addition to the university museum. We combine research, PhD training, and research-based teaching in a wide variety of disciplines. Public outreach is regarded as one of our primary activities.

As a university within the long European university tradition, we emphasise the fundamental values of institutional autonomy, academic freedom, diversity, openness, and critical thinking. We aim for quality and excellence in all activities. Our university has advanced 199 positions on the QS World University Rankings since 2005, and in 2011 it was ranked as number 121.

Located in the heart of Bergen, our university is the only city university in Norway. A charming city on Norway’s West Coast, with strong international traditions, Bergen is a gateway to the fjords as well as a gateway to Europe.

Both the city and the University of Bergen are characterised by an international orientation. One of our priorities is research on global challenges, including climate and environmental issues, poverty, health problems, and human rights. Our extensive international collaboration includes bilateral agreements with 400 universities all over the world, and active participation in important international university networks and organisations such as the Worldwide Universities Network (WUN) and the Coimbra Group. Twelve per cent of the students, 35 per cent of the PhD graduates, and 15–20 per cent of the academic staff are recruited from 75 different countries outside Norway.

This international edition of HUBRO, our main university magazine, presents a variety of articles about our current activities and recent achievements, which reflect our focus on diversity and quality, our academic ambitions, and our international outlook.

Sigmund Grønmo
Rector