

Introduction

How it all started: the first interview in 2003

The Abel Prize was established by the Norwegian government in 2002 on the occasion of the 200th anniversary of Niels Henrik Abel's birth. Its main aim was to recognise contributions to mathematics of extraordinary depth and influence. An Abel Committee consisting of five prominent mathematicians had the difficult task of selecting the first Abel laureate for 2003. In March of that year, its chair Erling Størmer announced the committee's decision to award the first Abel Prize to Jean-Pierre Serre, Emeritus Professor at the Collège de France in Paris, to be honoured "for playing a key role in shaping the modern form of many parts of mathematics, including topology, algebraic geometry and number theory".

The Abel Prize, having been recently established, was not yet well known to mathematicians (and even less so to the public at large). The Abel Board tried to advertise the prize by various means, including using Norwegian diplomacy. Among many other initiatives, the Norwegian embassy in Denmark approached the editorial board of *Matilde*, a small membership journal of the Danish Mathematical Society; the editors were asked whether they would be willing to cover the prize ceremony and help in making the prize more well known in Denmark. Martin Rausen had previously interviewed a number of well known Danish mathematicians for *Matilde*. After some reflection, he gathered his courage and asked whether it would be possible to have an interview with the laureate. To his surprise, arrangements were made quickly and an interview was granted by the organisers and by Professor Serre.

Very shortly after this, the Norwegian Mathematical Society came up with the same idea – an interview to be conducted with the laureate. The reply from the organisers was negative as an arrangement had already been made with a mathematician from Denmark! Luckily, the society's president at the time, Kristian Seip, did not take this as the end of the story; he called Martin Rausen, proposing that the interview become a joint venture with Christian Skau, a Norwegian mathematician with a keen interest in Abel and his mathematics. The two of us did not know each other at the time but it turned out that this "forced marriage" would be the beginning of a long and fruitful partnership.

We did not have a lot of time to prepare for our first Abel interview. As a point of departure, we had, of course, the prize citation. We both knew bits and pieces about certain aspects of Serre's work and its importance but neither of us had the

expertise to fully appreciate the scope of his lifetime contribution (or, for that matter, the contributions of the Abel laureates after him). However, a scheme for the preparation was constructed on the fly (see below). After introducing ourselves to Professor Serre by mail and briefly communicating about the topics to be covered, we were ready to start our first Abel interview at the Hotel Continental in Oslo. The interview was recorded and when one of our Norwegian colleagues watched it, she commented that we appeared like schoolboys! It is true we were nervous confronted with a mathematician of Serre's stature and wit! With substantial help from Professor Serre, the interview was edited and appeared first in *Matilde* and then in several other journals of mathematical societies: the *Newsletter* of the European Mathematical Society, the *Nieuw Archief voor Wiskunde*, the *Notices* of the American Mathematical Society and others. We felt that the result was worth the efforts and we were motivated and eager to continue!

Preparing, conducting and editing the interviews

To understand the process leading to a completed Abel interview, one needs to keep in mind that it has a double purpose, aimed at two entirely different audiences. One of these is the Norwegian public at large, who have the opportunity to watch an edited version of the recording (with Norwegian subtitles) on a science channel (Kunnskapskanalen) on Norwegian TV (NRK). We are still surprised that so many people follow our interviews on TV! Most of the recordings can be found on the website, www.no. The second audience consists of the readers of various journals for members of mathematical societies, notably the *Newsletter* of the European Mathematical Society and the *Notices* of the American Mathematical Society (and these readers are mainly mathematicians, of course). As a consequence, an interview needs to contain both general questions and comments and also more mathematically advanced ones (although these are sometimes omitted from the TV version).

Every year, the Abel laureate is announced in the middle of March at a public ceremony (in recent years, this has been streamed live on the Abel Prize website), the venue being the beautiful villa belonging to the Norwegian Academy of Science and Letters. In most cases, the laureate is then contacted by phone, receives congratulations and is asked a few questions. The citation for the prize-winner, a biography and some explanations for the public and for the press are shared on the web almost instantaneously.

This is the time when the interviewers' preparations start, roughly two months before the interview is to take place. We start by sorting out the intelligence. Are there "popular" articles in journals or on the internet explaining the work of the prize-winner? Are there even interviews with the laureate conducted by others? Are there colleagues who either know the laureate or who are, at least, familiar with his¹

¹ So far, all Abel laureates have been male.

research areas in mathematics? Next in line is the first contact with the prize-winner, asking permission for an interview. So far, all have given their consent.

The first written account is an interview guide that is sent to the laureate. This is one or two pages long, containing keywords and expressions referring to topics that we would like to touch on during the interview. As one may guess, some of them are very specific to a laureate whilst others reappear from year to year. Every year, we give the laureate the opportunity to edit these interview guides; only a few have done so. The two of us contact each other a few times and start dividing the preparation between us; the outcome usually depends on which of us is closer to the laureate's work. We meet each other face-to-face at a hotel in Oslo on the evening before the interview takes place and we put the finishing touches to our interview plan the next morning.

For the first interviews in the series, we made very detailed plans of who would ask what. As we have become more experienced, we have been able to relax a bit. We still prepare questions but now we let the interviews develop at their own pace and ask our questions whenever they seem appropriate, even if they are not pre-planned. Laureates do not always answer as you expect them to; they come up with a keyword or a line of thought that naturally leads to a follow-up question. Our task is to let the laureate do the talking and explaining; we as interviewers keep in the background, only "feeding" the prize-winner with suggestive questions.

So far, the average age of an Abel laureate at the time of their award is 76 years. Taking this into consideration, they have to fulfil many arduous duties during the Abel week: handing out prizes for mathematics schoolteachers and pupils; wreath-laying at the Abel monument; attending a dinner and party at the Academy of Science and Letters (for mathematicians) and a banquet at Akershus Castle (given by the Norwegian government, in the presence of royalty); attending an audience at the royal castle and often also at the embassy of the laureate's country of origin; attending the prize ceremony itself at the Aula of the University of Oslo, preceded by a rehearsal and succeeded by a reception, with a shorter and rather more personal interview and the Abel Prize lectures, including a lecture by the laureate; and finally a visit to one of the Norwegian universities outside the capital! Fortunately, "our" interview is one of the first of the laureate's duties!

In recent years, a nice tradition has been established. We have lunch with the laureate right before the interview. This allows us to become acquainted and to go through the overall setup for the interview in a relaxed atmosphere. Sometimes ideas for further questions also arise from an interesting remark by the laureate. The interview then takes place and is recorded; usually it lasts between one and one and a half hours. A couple of days later, editing begins, firstly for the television programme.

The written version of the interview requires some special editing. The oral version may contain repetitions, half-formulated sentences and even small language errors. Arranging some of the text in a different order may make more sense. Of course, the prize-winner has a say as well. Sometimes, we have an important additional question that we did not ask during the interview or a few additions or

clarifications come up when a written version becomes available. This work needs to be finished around six weeks after the interview in order to meet the deadline for the *Newsletter* of the European Mathematical Society. A very nice collaboration with Sylvia Fellmann from the EMS Publishing House working on the layout for the Newsletter has developed over the years; only very few corrections have to be made to the proofs that all participants receive. The interview appears first in the online version of the *EMS Newsletter* and then the EMS members receive it in their printed version of the *Newsletter*. It has become customary that the interview is reproduced in the *Notices* of the AMS at the beginning of the following year, thus reaching a far wider audience. As an aside, it should be noted that most of the interviews have also been translated into Chinese and published in a Chinese journal! The interviews in this collection are reprinted almost as they appeared in the *EMS Newsletter* and in the *Notices*. We have used the opportunity to correct a few minor errors, and we have added the life spans of mathematicians and other personalities mentioned during the conversations.

A rewarding experience

When we had the first interview with Jean-Pierre Serre, neither of us imagined that we would continue this for so long! One of us, Martin Raussen, has now decided to step down – with regrets; the other, Christian Skau, is going to continue with a new partner. As one can imagine, it is an immense privilege to get the chance to talk to the world's most famous mathematicians! Although these encounters are of short duration, you develop an enormous respect for the personalities of the laureates, for their very special talents and for the breadth of their mathematical background and knowledge. It has also been very rewarding to register their reflections concerning the process of mathematical exploration, the perseverance they have needed to make progress and sometimes the sudden bolts of inspiration they have encountered. The personalities and the mathematical areas these mathematicians excel in are different but their experiences have a lot in common with each other.

Needless to say, participation in the Abel week is an additional bonus. You meet with colleagues from Scandinavia and from around the world. The beautiful award ceremony in the university Aula is an attraction in itself. The Abel lectures on the following day provide intellectual stimulation and there are delightful dinners and parties to participate in: at the Academy of Science and Letters and, more formally, at a banquet given by the government in honour of the laureate at Akershus Castle.

An imaginary interview with Niels Henrik Abel

As an appendix, we present an imaginary interview with Niels Henrik Abel. We have tried to imagine an interview taking place shortly before his all-too-early death, following a pattern and a scheme similar to that used when interviewing the Abel

Prize laureates. As for the questions and the answers, a lot of historical evidence has been considered. We hope that we have been able to convey an authentic and, at the same time, vivid impression of this mathematician par excellence, who has made such revolutionary contributions to mathematics and whose achievements we honour every time a prize is awarded in his name.

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Martin Raussen and Christian Skau