The beginning of RNA

KAREN BEEMON

Department of Biology, Johns Hopkins University, Baltimore, Maryland 21218, USA

In October 1993, Reinhard Luhrmann organized a small RNA meeting in Marburg, Germany, and invited me as a speaker. This was the same year the Nobel Prize for Splicing was awarded, and many of the meeting talks concerned the mechanism of splicing. I was excited that Joan Steitz, who had first proposed that snRNPs were involved in splicing, was the Keynote Speaker at this conference. She had also recently been named the President-Elect of the newly formed RNA Society. Two interacting low abundance snRNPs, U11 and U12, had been discovered the year before in the Steitz lab, but their function was unknown. My lab had recently discovered that the U11 snRNA binds to a Rous sarcoma virus (RSV) RNA element that helps regulate the balance between spliced and unspliced viral RNA. This was before AT-AC introns were discovered, and U11 and U12 snRNPs were found to substitute for U1 and U2 snRNPs in a minor class of spliceosome.

I flew to Frankfurt from Baltimore, found the train station and then had to figure out how to buy a train ticket from a non-English speaking ticket machine. Finally, I arrived in Marburg, a bit jet-lagged, and went to the meeting hotel. Tim Nilsen, whom I barely knew, was sitting in the lobby when I checked in. He immediately attacked me for a critical review that he thought I had written six years earlier of his paper on m⁶A methylation of influenza RNA. It is possible I did write the offending review, but his paper was published nevertheless. That was when I learned that Tim never forgets a thing.

I thought the meeting had a great mix of people working on mRNA splicing and on viral RNAs. Other invited speakers from the US included Bob Krug and Mike Malim. Bob had made the amazing discovery that influenza virus stole caps from cellular mRNAs. Mike studied Rev-mediated export of unspliced HIV RNA. Incidentally, Bob had also identified m⁶A in the influenza genomic RNA in the '70s, when my group had begun to study it in RSV. Tim talked about the role of U6 snRNP in cis and trans splicing in nematodes. Reinhard talked about his lab's detailed analysis of snRNPs

and of the spliceosome. The meeting was very stimulating and interactive, ending with a dinner and dance party at Reinhard's home.

Marburg turned out to be a charming small German town with a castle, despite its infamy as the site of an outbreak of Marburg virus (a relative of Ebola). I remember walking around town a lot. On one of these walks back to the hotel, Joan shared her frustration with Tim and me that the journal *Cell* did not appreciate RNA work. This conversation led to the idea that a new journal should be started that focused on RNA. By the end of the Marburg meeting, Tim had agreed to start such a journal and to be Editor in Chief. He asked me to be the Editor for Viral RNA. I don't think I believed he would pull it off, so I didn't leap at the chance. I had no idea it would become the leading journal for the RNA community and regret that I didn't accept his offer.

To my surprise, the first copy of *RNA* appeared less than a year and a half later, in March 1995, as the journal for the RNA Society. It has always been both rigorous and fun to read. It has an important role as a place to get fast and fair reviews of papers on any aspect of RNA biology. I recommend it to both my graduate students and colleagues as a reasonable place to send a paper that will be seen by the RNA community.

The timing of its beginning was propitious, as there has been an explosion of new findings in the RNA field in the last 20 years. I have been fascinated with the discoveries of new types of RNAs, including microRNAs and long noncoding RNAs. Genome sequencing revealed there were fewer protein-coding genes than expected, requiring massive alternative splicing to synthesize mRNAs for all the missing proteins. Mechanisms of nonsense-mediated mRNA decay (NMD) remain interesting and controversial. Finally, the m⁶A field seems to be undergoing a rebirth with many functions ascribed to cellular mRNAs containing this internal modification that was originally studied in viral RNAs decades ago. It is hard to imagine the RNA field without the RNA journal.

Corresponding author: klb@jhu.edu

Article and publication date are at http://www.rnajournal.org/cgi/doi/10. 1261/rna.050492.115. Freely available online through the RNA Open Access option.

© 2015 Beemon This article, published in RNA, is available under a Creative Commons License (Attribution-NonCommercial 4.0 International), as described at http://creativecommons.org/licenses/by-nc/4.0/.