An Interview with

TILLY BAYARD-RICHARD

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Abstract

Tilly Bayard-Richard reflects on her career in computer standards as secretary for standards committees in AFNOR (*Association Française de Normalisation*) and ISO (International Organization for Standardization). She describes the various forms of labor involved in the administration of standards committees, and her working relationship with leaders of the ISO committees creating standards for Open Systems Interconnection, including her long-time supervisor Hubert Zimmerman. She also reflects on her career in information documentation and on the role of women in standards-setting work.

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Russell: This is Andy Russell, I'm here with Tilly Bayard-Richard, and we're going to talk about her involvement with computer networks, ISO [International Organization for Standardization] and AFNOR [*Association Française de Normalisation*]. How did you become involved with this field?

Bayard: I was 30 when I started my job with AFNOR. That was in '79. So the TC97, SC16 committee had just been created. I understood that recently from the interview you made with Charlie Bachman. So I think the first international meeting I attended was in London in 1979. I can tell you why I remember that meeting really well. But I don't remember what happened, what was the outcome, what we did during that meeting. I don't think we did that much. And I can't remember the exact date when the OSI model became a draft international standard (DIS). It was the very beginning, so…

Russell: In July 1979, TC97 approved the OSI Reference Model as a working draft, and then authorized SC16 to revise it. Hubert Zimmerman was Chairman of the architecture working group, in charge of…

Bayard: WG1. I was the Secretary. I remember that!

Russell: And in November 1980, the revised OSI Reference Model became a draft proposal.

Bayard: "DP" as we said.

Russell: DP. And then the reference model was draft international standard in January '82.

Bayard: *Ah, voilà!* '82.

Russell: And then [an] international standard in May 1983. And that was ISO 7498.

Bayard: Yes. All right. Thank you. So I was involved in the WG1 and in the model standardization work driving the documents from the draft to the standard. And it was all paper at the time. It's funny thinking now what we could have done with the new technologies we have now because, at the time, it was really paper copying.

Russell: Cutting and pasting, right? Do you think things would have moved more quickly with different technology? Do you think it would have made a difference?

Bayard: Yes, but we were working on things that made it up later. That's my point of view. I know that, speaking with Jacqueline Pasquereau, for example, and another guy, Alain Bron who was working at Bull, they have memory that we lost a war. That they lost the war. And I don't know why. Maybe because they seemed to think that it was all void by the Internet protocol, by the Internet afterwards, but I think it was maybe part of it. It was necessary.

Russell: From what I've found, the Internet people at the time always said that OSI was the enemy. So maybe one way to think of it is that you pushed them, in competition?

Bayard: Yes, yes, that's right.

Russell: So then you said you were right in the middle of things. In France, it seems that the politics were tricky, between telecoms and computers.

Bayard: Yes, but I'm not the person for strategic, for… No, I think Hubert Zimmerman and Najah Naffah will be the ones for that. For me, at AFNOR, I think the tendency was to work with the computer industry rather than the telecoms. I don't know why.

Russell: At AFNOR, then, you put together the physical documents. What else did you do?

Bayard: The daily or the weekly work was our meetings, to make people meet and discuss the documents. So prior to that they had to be distributed. I remember that at AFNOR, they said that SC16 work was spending too much money sending documents all the time. Because we were working at a good pace. I think it was a shock for AFNOR really.

Russell: Because it was different from what they were used to doing?

Bayard: Yes.

Russell: So how did you justify getting the money for the project?

Bayard: AFNOR was like BSI or was it like ANSI? I don't know. But it is a national *association*, so it gets subsidiaries from the *Ministère de l'industrie,* Ministry of Industry. And also the manufacturers paid for being involved in the work. So Bull, IBM, they paid an annual fee – I can't remember how much it was – but an annual fee to have the right to participate in the standardization work. And then AFNOR distributed it on the projects. And at that time, of course, information was a big project, maybe it was just starting. I think other projects were jealous, of course.

Russell: I've heard the same thing about ISO, when the OSI project moved into the SC16. The dynamics of the committee were different from ISO's traditional approach.

Bayard: Yes, it's the same at all levels, at the European levels. I think that the problems were the same at all levels. But it was interesting… Maybe that was a battle that was won. My memories are that, yes, it was. We succeeded, and even at AFNOR, they were proud at the end in '85 or so. I had been working for five years, and at the beginning it was quite difficult. I was just entering the job. And I think, five years later, AFNOR was proud to have the model. It had been translated into French – I can't remember who did that, ask Hubert about the translation into French. Normally, I would be the one who would, but I don't remember. I remember the book, it was red. I remember I participated,

of course, in reading and re-reading and reading again. I remember that once we made a mistake in the title, and it didn't show until the very last moment when it was printed so that there was an error in the subtitle because, of course, the subtitle was very long, and there was a typo on the cover. Of course, it hadn't been checked like the inside.

Russell: I have also seen reports about tension between the Americans, the British, and the French, over the issue of translation.

Bayard: Yes, in the big meetings, we had translation, but in the working group meetings, there was not. In the working group for the model, there was no translation in the meeting. We translated at the DIS level, I think. At DP, I'm not sure. But I think we started translating at the DIS level. But of course at the sub-committee level and, of course, at the TC level, yes, in the meeting, there was… Hubert was compelled to speaking in French, and he didn't like it at all.

Russell: Because AFNOR said he should speak in French?

Bayard: It was not AFNOR, it was the rules for ISO. It was in Geneva, and AFNOR was following the rules. But in the WG1 group, which was Hubert's group, we did what we wanted, I think.

Russell: Ah, okay, so only when you got to the advanced stages…

Bayard: We were compelled to follow the rules by ISO.

Russell: It's not only the money and the amount of effort that went into SC16 that was different than the traditional ISO process, but also the pace of work and the long hours of work within SC16. John Day, who you know well, was involved with the American delegation to SC16 and said that their style of work was unusual for an ISO committee.

Bayard: Yes. It was the WG1 meeting in '83, in Paris. And I was expecting a baby. That's why I remember, she was born in March. Maybe it was in the beginning of March or late in February, and John, he was like a father to me. He was my age, but he had always been very kind and very… *Comment dit-on?* Really, John was different from other people in many ways. <laughter> And so I remember he was very cautious. I wanted to be there. And I remember Hubert was kind to me also, and he had an assistant from CNET coming from the Télécoms to help me. Not paid by AFNOR. And then I remember John Day drafting a recommendation to welcome the WG1 baby. I think Hubert didn't notice that much.

Russell: John also speaks of a bunch of you cramming into a car late at night.

Bayard: And that's it, yes, the *Deux Chevaux*. Yes. Hubert will tell you, that was Hubert's car oh, yes, I remember. So maybe around 8:00 pm, Hubert took me in his *Deux Chevaux* to the metro because we were in *La Défense*. So he took me with his *Deux Chevaux* back to the metro, and then he went back to AFNOR to continue the work. And later at night, he took Charlie Bachman, the big American, Kenji Namura, the small Japanese, and John I think was there, too, and he took them in his *Deux Chevaux*, but I was not there. He took me earlier. He took me earlier so that I could be back early the next morning. I think it was 6:00 in the morning at AFNOR to do the photocopies of what they'd been doing during the night. *Voilà.* That's why.

Russell: They worked all night?

Bayard: Yes, I was there at 6:00, and I think they were back at 8:00. But we did that too in Paris, in London, in Tokyo.

Russell: You traveled to a lot of nice places!

Bayard: And in Ottawa. Yes. We had a big meeting in Ottawa, but Ottawa was a small place. I remember the meeting.

Russell: So this was a wonderful experience for you?

Bayard: For me, it was great. Yes. That's why I have good memories, very, very good memories. In all my career, I think it was the climax.

Russell: What else can you tell me about the group you worked with?

Bayard: I think we were same age except for Charlie maybe, and [IBM's John] Aschenbrenner… Others were in their 30s to 40s, I liked that very much, they were *drôles*, funny. I really enjoyed that.

Russell: How long did you stay with AFNOR?

Bayard: I left AFNOR in 1989 when Hubert started Chorus with Michel Gien and Marc Guillemont. They had started, I think, one year before in '88. Of course they were prepared before, but the Chorus system I think was created in '88 or '87. And I arrived in '89. And just before, I was still working with AFNOR, but I was sent to CNET with Hubert. So I was paid by AFNOR, but I was working at CNET with Hubert and Jacqueline Pasquereau and others. And we were working for the dissemination of the OSI standards within the telecoms.

Russell: So then your work at AFNOR was always with OSI and computer networks?

Bayard: I had some other duties. With SC2, with codes, with ASCII, with character codes. But it was slow pace. It couldn't compare with SC16 or TC97. I also followed the TC46 for documentation because that was my previous job and could say my backgrounds were in information science and documentation. It's not an American word I know. But at that time, "information scientist" was used. In my earlier job, I had been using computers to retrieve information from databases. It was the beginning of it. I

really am proud and happy to have worked with computers from the beginning in different areas but all dealing with information dissemination. That's the key for me.

Russell: What was the work before AFNOR?

Bayard: It was called AFDAC, which was a French Association for Automated Documentation in Chemistry. I was working with Americans, with Chemical Abstracts in Ohio. I went to Ohio. I visited Chemical Abstracts. I think my first trip to the States was in '75, maybe before. I went to Kodak, I visited documentation center for Kodak in Rochester. Dow Chemicals in Michigan. I did the trip all by myself. I was 25, 26. I don't know. <laughter>

Russell: I hope you went in the summer or maybe in the fall, not in the winter!

Bayard: It was the beginning of the fall, and I remember that in Michigan, I had snow. I was coming from Paris, and I… <laughter>

Russell: How did you become interested in information dissemination?

Bayard: I had a degree in chemistry in the *Faculté d'Orsay*. I should have worked in chemicals, but no, at that time, I had heard of the information dissemination jobs, and I was interested in that. So on top of the degree in chemistry, I took a degree in *documentation*. It was two years, and I was *ingénieur documentaliste. Voilà. Les métiers de la documentation sont assez français.* The British don't have it, but documentation centers in the States were very important.

Russell: And it's come back in a way, too, schools that were once library schools at big state universities – Texas, Indiana – are now calling themselves information schools.

Bayard: And I discovered… Do you know Danah Boyd? Very, very recently – 10 years ago – I read and I translated some of her papers. I thought they were good ones on

Facebook, on things like that. Suddenly she spoke about a French woman. She wrote an article about Suzanne Briet, who was born in 1895 and was a librarian *à la Bibliothèque nationale de France*. She was at the origins of the *documentaliste* profession in France, and she was *Directeur technique* for *l'Institut national des Techniques Documentaires*, delivering the first diploma *pour la profesion de documentaliste*. She created that. Suzanne Briet. And I didn't know. And I followed that same *cursus*!

Russell: I wonder how Danah Boyd found that?

Bayard: Because that lady had written in '58 a small memorandum or book "What's documentation?" *Qu'est-ce que la documentation?* And an American university translated it, and they found that she was a *visionnaire*, and she had understood that what was a book, what was information content, etc. And she had written that down in '58, "What's documentation?" And that paper in French – *Qu'est-ce que la documentation?* – is not available anymore. If you want to read it, you have to go to *La BNF*, and read it on microform. It's silly, completely silly. So I think that's my little job now. But it's changing because now we have this possibility to numerize. I think it's going to be provided in digital form. But for the moment, it's not. Strange. French are bizarre sometimes.

Russell: Many people in the field are men, but historians are writing more about women in computing and information technology as well.

Bayard: Well, there's a few of us, I think, yes. I think that even at that time you would think of us as participants playing their part, either women or men, all the same. I think I'm a feminist *in acts*. I think in the States, women are more conscious of that than in France really. What I remember is that I was conscious that the work we were doing was important, was strategic. I can't remember – I think it was in '83 – maybe that was in Paris – or in '82 – I can't remember where we were, but I remember Hubert *me disant, «Si on n'arrive pas de DIS à ce meeting,»*…"If we don't come to the DIS [Draft International Standard] status during this meeting, it's over." <Gasps> So I was really

participating with the atmosphere. I was taking notes, trying not to forget what people were saying and drafting recommendations for the end of the meeting, of course making copies, and that's what John remembers, but that for me was a big part. AFNOR after was coming to me saying that I had been doing too many copies for them, but that was not my concern. My concern was that the work they were doing – I could see that they were working so hard – was not lost.

Russell: Did you take minutes in the meetings?

Bayard: Yes.

Russell: I've seen some meeting minutes from ANSI, and from ISO SC16. Was that your work?

Bayard: Maybe, maybe not. I was taking minutes for the WG1, the working group. So – I can't remember – who took minutes? Oh, it was N+1 for the SC16. ANSI.

Russell: At ANSI – was it Frances Schrotter?

Bayard: Yes, now I remember Frances, of course! Did you interview her?

Russell: Not yet.

Bayard: Okay. Very tall, very elegant. So when you see her, tell her I remember her very well. Frances, okay.

Russell: Lisa Rajchel, too? That's another ANSI name I've come across.

Bayard: Yes. So there are your women. That's going to be an interesting part of your work. *Chic.* Oh, yes, I can tell you about the way they were dressed, these men. I can't remember how I was dressed. Can't remember. But they were in jeans and sneakers, and

that was a scandal for AFNOR. At AFNOR, I remember my N+1, too, the men were very *collet monté*, very prim… for them the OSI experts were cowboys <laughter> and I loved that.

Russell: But Charlie was of a different generation.

Bayard: Yeah, he was always very elegant too. But they were all original persons, I think.

Russell: Can you tell me a little bit more about Hubert Zimmerman, whom you said had been your boss for 20 years? What was it like to work with him?

Bayard: Yes, he was not my boss at AFNOR, of course, but he was my boss because he was chairman for WG1. Later, he asked me to come and work on the documentation for Chorus. And when Chorus was acquired by Sun, he left to the States, so – perhaps not 20 years, but it's 15.

Russell: You enjoyed working with him?

Bayard: Yes, I admired him very much. *C'est de l'admiration.*

Russell: And Michel Gien?

Bayard: Michel Gien? Yes, I worked with him at Chorus. And when Chorus was finished and Sun was finished, Michel Gien created a new company to take over: Jaluna. I was still there at Jaluna. It was a continuation of Chorus or of the work they had been doing previously. But of course Hubert will tell you. But what also I think is important for me is that I've been working with "open" projects from the beginning. From Unix to Linux. So that was what was important for me, you know. I told you I'm not a real feminist. I'm not a real – *Comment dit-on?* – I'm not a geek. But I like the spirit of *ouverture*, and *ouverture* is in the model from the beginning. Open systems.

Russell: Is that the consistent focus, from your point of view, across with all these different groups?

Bayard: No, but it's only inside of me. The red line is the openness. Knowing that we were working on projects that were aimed to open things, to *partager*, to share. That's important for me still now. *Voila*.

Russell: One last person I want to ask you about is Louis Pouzin. Did you work with him directly?

Bayard: No, but he was very important. He was a boss of Hubert.

Russell: They worked together very closely with Cyclades…

Bayard: That was before.

Russell: Right. Until they lost their funding.

Bayard: Yes. I don't know what happened at INRIA (IRIA at the time). So Louis will explain. I don't know. I can't remember things in terms of wars. My memories are not so much in terms of battles. Perhaps they could feel that, but I could not. *Oui, on s'amusait bien aussi*. We had fun, too. And achievements. *Merci*.

Russell: *Merci*, thank you very much.