

## Brief lives, *Une Vie brève*

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In this article, I am going to discuss my book *Une Vie brève* (A Brief Life) [10], published by Gallimard in its series L'Arbalète in January 2013. Let me start with the back of the book. There one can read (my translation):

This is the story of a brief life. I could have chosen the life of a stranger whose picture or smile I would have seen in an old newspaper. Instead I chose the life of my father, Maurice Audin. You might have already read his name. You might have heard of what was called “the Audin Affair”.

Or maybe you have not.

I will tell you right away: neither the martyr, nor his death or his disappearance is the subject of this book.

This is rather about life, his life, all the tracks of which have not disappeared, that I want to talk here.

Michèle Audin



L'arbalète gallimard récit

Une vie brève

### Brief lives

Before developing this point, let me first explain the title of the book. Brief life refers both to the fact that Maurice Audin's life was indeed very short—he was 25 when he was murdered—and to the tradition of brief lives we inherited from literature. I am thinking of the *Brief Lives* [1] of the British writer John Aubrey (1626-1697)—in this case the word life means “a life that is told”, namely a biography. And a brief life is indeed a short biography.

**Brief lives a user's manual.** How to write a brief life? Suppose you want to tell the life of Ms X. You pick some episodes (say one or two) in her life and you simply tell them. If you are as gifted as John Aubrey was, you get a suggestive portrait of Ms X. Of course the subjectivity of the author plays an important role in this story.

Note that one of the brief lives of Aubrey was devoted to a mathematician, Thomas Allen

(1542-1632), so that we are right in our subject.

Although Thomas Allen is an interesting character, I would rather give a more contemporary example, as this will be even more related to our subject.

**A brief life of Max Dehn.** This brief life is an article [10] I wrote for the French online journal *Images des mathématiques*. I chose two moments in Max Dehn's life:

- how he solved Hilbert's Third problem right away in 1900
- a letter he wrote to the DMV (German mathematical Society) in 1948.

I want to emphasize that this is a very personal and subjective choice:

- Hilbert's Third problem (scissor congruence) is a question that can be stated at a quite elementary level, so that it is suitable for a large audience. So is its proof in dimension 2. In dimension 3, however, the answer is negative and proving it is more intricate, but it will allow you to exhibit the notion of “invariant”, which is an important mathematical idea.
- The way the DMV expelled its Jewish members in 1935—I mean the fact that some German mathematicians decided to expel other German mathematicians—is an event we should be reminded of.

Mathematical and political subjectivity so to speak! Here is a translation of the first part of this article (the second part, not included here, is about Hilbert's Third problem).

In 1948, the 70 year old German mathematician Max Dehn turned down the invitation to join the German mathematical Society (DMV) :

“I have lost the confidence that such an association would act differently in the future than in 1935. I fear it would, once again, not resist an unjust demand coming from outside [...] That it did not voluntarily dissolve itself in 1935, and that not even a considerable number of members left the association, leads me to this negative attitude. I am not afraid that the new DMV will again expel Jews, but maybe next time it will be the so-called communists, anarchists or 'colored people.’”

In 1900, the 22 year old German mathematician Max Dehn solved “Hilbert's Third problem”.

And inbetween? Let us briefly remember some important facts in the life of Max Dehn (born in 1878).

1. In the years 1910-1912, he studied problems that have been very important in group theory since then.
2. In 1915, he enlisted in the army and fought until 1918. He was wounded and was awarded the *Ehrenkreuz*.
3. After the war, he went back to mathematics, group theory and topology.
4. His seminar on mathematics and history at Frankfurt University was very influential for an entire generation of mathematicians.
5. In 1935 he was dismissed from his duties by nazi Germany, as an application of its antisemitic politics.
6. In 1939, he finally decided to flee Germany, expecting a position in Norway. Then, once this country was occupied by Germany, he reached the United States via Finland, Russia, the Trans-Siberian Railway and Japan.
7. There he had a hard time finding a job, but he ended up being hired by the small College of Black Mountain (North Carolina) in 1944. There he was the first math professor and he also taught philosophy. Although the position was not at the level of his mathematical talents, it seems that he was happy there.
8. Shortly after retiring from Black Mountain, he died in 1952.

Now, let us go back to our main subject.

### *Une Vie brève*—yet another problem

*Une Vie brève* is the account of the short life of the mathematician Maurice Audin (1932-1957). Although I said I was not going to speak about his death, humor me as I remind you what happened to him.

**A long disappearance.** Maurice Audin was a teaching assistant at the University of Algiers. In 1957, he was completing a thesis in functional analysis (indices of linear operators) under the guidance of René de Possel (1905-1974).

At that time, Algeria was still a French colony but, since 1954, the country was engaged in an independence war. Maurice Audin was an activist in the Algerian communist Party and, as such, he was acting, at the political level, against French colonialism—for the independence of what he considered to be his country. In 1957, the French army was conferred all the Police powers in Algiers by the French Republic; this was the so-called “Bataille d'Alger”.

It is on June 11<sup>th</sup> that Maurice Audin was arrested. He then was tortured and eventually murdered—by French officers.

The French army never acknowledge this fact and instead organized a made-up escape, so that Maurice Audin was reported missing...

As I plan on speaking about him and his life, I will not end this part without mentioning that he was not an isolated case: one of the achievements of the Bataille d'Alger battle was its load of disappearances. Maurice Audin is only one amongst the 3000 missing people.

But he was an academic. He was included in the French mathematical community. He was of French origin. Overall, his wife Josette Audin was very determined and she wrote hundreds of letters to hundreds of people to alert them of the disappearance of her husband. Thanks to the influence of Laurent Schwartz and Pierre Vidal-Naquet, Maurice Audin became a symbol of the struggle against torture and against the colonial war in Algeria.

I just mentioned Pierre Vidal-Naquet. He was the one who invented the name “l’Affaire Audin” (the “Audin Affair”). This was the title of the book [18] this historian devoted to this case in 1958. He made a thorough and clever investigation to prove that the escape was fake and that Maurice Audin had indeed been murdered by the officers who tortured him. The name of the book was an obvious reference to the “Dreyfus Affair”. Indeed, in both cases, the French army must be held responsible, even though the institution, with its long tradition of secret (in French, the army is sometimes called “la grande muette”, the big mute), never admitted it.

Remember, however, that the Dreyfus Affair began in 1894 and ended twelve years later in 1906 with the complete rehabilitation of Alfred Dreyfus. In the Audin case, fifty seven years have passed and the official truth is still, in 2014, that he escaped and disappeared (although in June 2014, President Hollande wrote to Josette Audin: “it seems that your husband died while he was in incarcerated”—I will not comment more on that).

**Life.** My goal was to tell the story of Maurice Audin's life. Not “a long disappearance” but “a brief life”. Not the petrified statue of the “hero of the anticolonialist struggle”, but the living young man proving theorems on kernel of linear operators and buying Parma violets for his young wife.

As the author of the book, I had to assume various positions: as a mathematician, as a historian of the XX<sup>th</sup> century mathematicians... and as Maurice Audin's daughter. Being a historian, I tried to collect all the remaining traces of his life. Being his daughter, I had access to the tiniest of those traces. Being a mathematician, I was also able to understand the place of his work in the mathematics of his century.

I have already mentioned the subjectivity of the author and, indeed, I don't believe that an objective, unbiased history can be written, especially in this case. Not only am I his daughter but I support his political choice.

Still, the writing of this book was quite different than that of the brief lives *alla* Aubrey: I did not want to pick a few anecdotes. On the contrary, I wanted to be exhaustive. The remaining traces were scarce and I did not want to miss any of them.

**The material.** I used various documents, mainly from the familial side: photos, letters, notebooks. I could also rely on what I heard from my grand-mother (who loved telling stories) and from my mother (who does not speak much but agrees to answer questions). I looked at old newspapers, including mathematical journals.

**Organization.** I classified all these informations, according to the following items:

- him (what he did, or maybe thought)
- mathematics (I will come back to that later)
- places (he was born in Tunisia, lived there, in France and mainly in Algiers)
- family

I added two further items:

- political events, i.e. general context (he was a communist, he was murdered because of his political positions)
- me (how I know all that, what I think of it—as a way to accept my subjectivity).

So that I ended with six stacks. I had to dispatch all that I found chronologically. In order to do that, I used some elementary mathematics.

**Mathematics and mathematicians.** Maurice Audin's advisor at Algiers University, René de Possel, was one of the founders of the Bourbaki group in 1935. The mathematician at the Paris Academy of sciences who presented Maurice Audin's *Comptes rendus* notes [2,3,4,5,6,7] was Gaston Julia, at that time better known for having been seriously wounded during WWI than for the Julia sets (which would be called this way later). The reference for Maurice Audin's thesis to be defended in Paris was Laurent Schwartz [17], another member of Bourbaki, who had been awarded one of the first Fields medal in 1950 for the invention of distributions. Another important mathematician who was supposed to be a member of the committee was Jean Leray. Hence Maurice Audin, although a young mathematician working in a remote university, was a member of the French mathematical community. He also had contacts with some foreign mathematicians.

The work he was doing was, or rather would have been, mainstream: Laurent Schwartz later wrote that he never heard of index theorems before he met Maurice Audin. Index theorems became very famous a few years later, after the publication in 1963 of the Atiyah-Singer theorem. Many people then began to work on index theory, and Maurice Audin's work, which could not evolve anymore, disappeared...

Let me mention the thesis defense in December 1957: de Possel and Schwartz organized a very solemn event: six months after his disappearance, Maurice Audin passed his thesis [8], *in absentia*. This took place in the largest lecture hall of the Sorbonne, with a very large audience, mathematicians, academics, journalists... This was one of the starting points of the struggle, in metropolitan France, against torture and the colonial war in Algeria. This was also a war between the University and the Army (see Schwartz' recollections [17]).

**From the document to the literary text.** I was, and still am, impressed by how writing creates history. This is nothing original: history does not exist before it is written. This is very similar to what happens in mathematics: as long as a proof is not completely written down, it does not exist.

But here is a concrete example from *Une Vie brève*. My mother kept everything she had

from my father, including quite a few notebooks. For instance several mathematics notebooks, with beautiful formulas on elliptic functions for instance, but also two account books: during two rather short periods, he wrote down day after day everything the young couple bought, every franc they spent. From these data, I wrote twelve pages of text and this indeed became a story: he drank black coffee, he smoked, he was not interested in “do-it-yourself”, he liked chocolate, he gave money to the Communist party and the French mathematical Society, he liked to joke...

This, the account books, is also an occurrence of what Georges Perec called the “infra-ordinary”.

**Literature.** Among the many literary sources of *Une Vie brève* (Perec, Camus, Modiano), I want to emphasize the role of two books by Georges Perec. Obviously *W ou le Souvenir d'enfance* (W or The Memory of Childhood) [15], with its statement “I have no childhood memories”. But also, on the infra-ordinary side, his *Je me souviens* (I remember) [16]: a list of very tiny recollections, which acts as a common knowledge between the author and the readers (though I don't know how it works for younger readers). I kept this idea of a connivance between the readers and the character: today's readers have a very small knowledge of the places and the ambience in 1950's Algiers. I tried to use as many hints as possible (school recollections, games, and so on...). And things. One of the journalists who wrote a very kind critics of the book also mentioned *Les Choses* (Things) by Perec [14].

As a mathematician, I was trained to write texts in which solving a problem brings up new questions. I call those: “open texts”. This book was an inquiry, I learned some things, but there are still things I don't know (hence the numerous question marks in the book). Let me mention another book, *Dora Bruder* [13], by Patrick Modiano (the “old newspaper” in the presentation of *Une Vie brève* at the beginning of this article is a reference to this novel): this is an inquiry, the author is the investigator, the text is subjective... and open.

The last reference is Albert Camus. He was awarded the Nobel prize in December 1957 (more or less at the same time Maurice Audin's thesis was defended). Camus considered himself an Algerian writer, the same way Maurice Audin considered he was an Algerian mathematician. In Stockholm, during his acceptance speech, Camus said that historians have duties, and that they must serve those who sustain history... a quotation I used as an epigraph for my book. Camus was born in 1913 and his father was killed at the beginning of WWI. In his unfinished and posthumous novel *Le Premier homme* (the First man) [12], he describes himself looking for memories of his father.

The reason why I quoted the “brief life of Max Dehn” in an article devoted to *Une Vie brève* is that they both raise, in ways that are not so different, the question of how we, mathematicians and citizens, react to extreme political situations. I think of fascism, racism, and of wars, dictatorships... this is an important issue for me and I have discussed it in various academic papers or books.

And recently in a novel, *Cent vingt et un jours* (one hundred and twenty one days) [11]. I shall discuss this choice of fiction in another paper...

*Thanks to Juliette Sabbah for her help.*

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