
A FEW GLIMPSES ON THE SCIENTIFIC LIFE IN OCCUPIED FRANCE

by

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Introduction

Whether the Vichy régime in France can or must be called a “fascist dictatorship”, this I shall not discuss. The lack of sovereignty could be considered as contradictory with the word “dictatorship”. However, this was a right wing, very conservative and authoritarian (and collaborationist) regime, leaded by a “guide”. Even the word “republic” had disappeared from the name of the country, which was named “État français” (French state). Note that, exactly as Mussolini and Hitler, Marshal Pétain became chief of the government in a completely legal and constitutional way:

Aujourd’hui, M. Lebrun, président de la République a, d’après la Constitution, nommé chef de gouvernement l’homme certainement le plus élevé en France: M. le maréchal Pétain.⁽¹⁾

Travail, famille, patrie

Work, family, homeland, this is the device of the new regime... replacing the republican *Liberté, égalité, fraternité*...

Exclusion of the Jews (followed by their deportation... and extermination) is an important part of the politics and life of this time, and is an important part of this talk. However, antisemitism is not an essential component of the fascism, as the examples of Portugal and Spain show. I shall start by another aspect, less politically correct, that of the exclusion of women of the public life and hence of the scientific life. In this respect, there is no doubt that the Pétain regime was indeed fascist.

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1. *Le Matin*, June 26th 1940.

In October 1940, the French government publishes almost simultaneously a series of exclusion decrees. One is the first Vichy status of Jews. Another one is about women at work. Married women can no more be hired as public servants, women aged 50 or more are forced to retire. This goes with the “famille” part of the device: women should be only mothers and housewives.

There were very few (perhaps no) female professional mathematicians in France in 1940. I will thus give the example of a chemist, Pauline Ramart-Lucas.

Pauline Ramart-Lucas (1880-1953). Pauline Lucas was born in 1880 in Paris in the working-class. Her father was a blacksmith and her mother a maid. She began to work when she was very young. At the age of 18, she herself was a worker making artificial flowers when she gave birth to a son (of unknown or rather unnamed father). So she was a young worker, alone with a son, in 1898. A brave young lady, no doubt, because she started to study chemistry, so well that, in 1935, she was appointed as a professor at the Sorbonne... and was the only woman to have such a position (I remind that Marie Curie died in 1934).



FIGURE 1. Pauline Ramart-Lucas (1880-1953)

She would never have got such a position as an unmarried mother. However she married a Mr Ramart around 1910. In 1940, she was 60. According to the Vichy politics, she had to leave her position. Between 1941 and 1944, she managed to

continue to work on organic chemistry in her laboratory and to publish papers. She was called back to her position at the Liberation in 1944. She was even a member of the “Assemblée consultative provisoire” in 1944-1945.

This outstanding woman is completely forgotten.

Statistics? Female scientists are so few that it is very hard to measure the effect of these decrees on the place of women in the French scientific life. I just counted the women who signed a paper in the *Comptes rendus de l'Académie des sciences*. At that time, scientists of all kinds (beginners and confirmed researchers) and of all subjects. The journal thus gives a rather general image of what happened in sciences (in a vast sense, from mathematics to geology and physiology). In today standards, the journal is very sexist. This allows a rather precise gender study: women are classified as “Madame” or “Mademoiselle”. Note that many papers have several authors.

date	authors	women	%
January-June 1931	1030	89	8,6
January-June 1938	1149	123	10,7
July-December 1940	414	65	15,7
January-June 1941	572	91	15,9
July-December 1941	492	56	11,3
January-June 1942	532	54	10
January-June 1950	1734	241	13,8

It is also very hard to interpret these numbers. The most striking fact is the considerable drop in the number of authors during the Occupation. The relatively important number of female authors in July 1940-June 1941 may be the consequence of the war (many young men were at war until the Summer of 1940, then some were war prisoners, and the others had to go back to their laboratories and start to work again...). Note also that everyday life was very hard, with huge and lengthy queues, that were (of course?) the responsibility of women. This was part of the “travail, famille, patrie” thing and has to be counted in the very small number of women in 1941-42.

The results for 1931, 1938 and 1950 were added for comparison. They seem to show a slow increasing of the number of women signing papers.

Jews and scientific publications

The precise context of the French antisemitic politics in relation with that of the Occupation authorities, the way this evolved and was applied against Jewish foreigners of French Jews from 1940 to 1944, is described in the book [9]. The next part of the talk given in Lisbon was based on my papers [1, 3] and on my book [2].

Here is a short abstract. Theoretically, Jews were not forbidden to publish in scientific journals.

Les juifs ne pourront en aucun cas exercer les professions suivantes: directeur, gérant, propriétaire det rédacteurs de journaux, revues, agences ou périodiques, à l'exclusion de publications de caractère strictement scientifique. ⁽²⁾

However, during the year 1941, their names disappear from the scientific publications, and especially from the *Comptes rendus de l'Académie des sciences*. The institution (the Paris Academy of Sciences) is very discreet, so that there is no trace in its archives of a decision to exclude the Jews from its publications. There is almost no trace of any discussion about the antisemitic legislation.

It is known by a letter of the MBF (Occupation authority) to Professor Ernest Fourneau (of the Pasteur Institute), that the Germans expressed the desire that the French scientists be better than the Vichy laws and purge their profession of the jews, and especially that no jew appear on the cover of a scientific journal.

And this is what happened in the *Comptes rendus*. The best example of this purge is that of a paper written by Charles Ehresmann and Jacques Feldbau. The paper arrived at the Academy in October 1941. The second author was a jew and the paper was stopped. The name of Feldbau could not appear as the name of an author. It was crossed. The Academician in charge of the presentation of the paper, Élie Cartan, who wanted very much that the paper be published, tried to put "These results were obtained by the author in collaboration with M. Jacques Feldbau" but this was crossed again and the paper appeared under the name of Ehresmann with the mention "The results were obtained by the author in collaboration with one of its students". All this is perfectly clear from the manuscript, which is kept in the archives of the Academy.

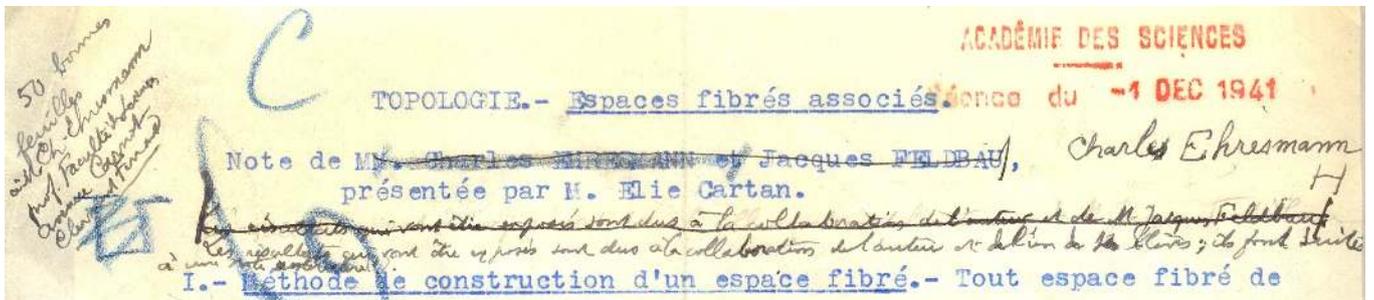


FIGURE 2. Manuscript of [4]

Which also shows that, contrarily to what is said here and there, it is not true that the jewish scientists were not forbidden to publish and that they simply censor themselves. Some of their colleagues helped them not to publish. At the very same time (November 1941), the *Comptes rendus* publish a note written by Étienne Halphen... under the name of Daniel Dugué. The Academician who presents the note, Émile Borel, certainly knows, but the institution does not.

2. This is the article 5 of the October 3rd 1940 decree.



FIGURE 3. Jacques Feldbau (1914-1945)

Back to Jacques Feldbau. Remember this mathematician was born in 1914. He is the one who proved (in 1939) that a locally trivial bundle on a contractible basis is (globally) trivial [6]. He is then sent at war (in the air force, as the photo shows). In the Fall of 1940, he is professor in a lycée and rapidly dismissed as a jew. In June 1941, he publishes a *Comptes rendus* note with Ehresmann [5] in which they prove that, for a fibration $E \rightarrow B$ of fiber F , there is a homotopy exact sequence

$$\longrightarrow \pi_n(F) \longrightarrow \pi_n(E) \longrightarrow \pi_n(B) \longrightarrow \pi_{n-1}(F) \longrightarrow .$$

After his named is crossed from the (next) paper with Ehresmann (see above), he decides to publish under the nickname of Jacques Laboureur, and indeed publishes two papers in the *Bulletin de la Société mathématique de France* [7, 8].

Exclusion is logically followed by extermination. Jacques Feldbau is arrested in 1943, sent to Auschwitz, he survives the evacuation of the camp in January 1945 but eventually dies in Ganacker on April 22nd 1945.

Let me end this section by summarizing the various strategies used by jewish mathematicians to publish their work (see [1] for details):

- nicknames (André Bloch, Jacques Feldbau)

- paper signed by a friend (Étienne Halphen)
- sealed envelopes (Paul Lévy)
- some journals in unoccupied zone (Laurent Schwartz, Felix Pollaczek).

Woman, Jew... and mathematician

In the list of female scientists in 1940-41, there are exactly two mathematicians, Jacqueline Ferrand and Marie-Hélène Schwartz. The latter disappears from the publications in 1941: she is a Jew. I shall end this paper with the evocation of another woman mathematician, Paulette Libermann. She was a student of the “École de Sèvres” (école normale supérieure for young women) and was about to prepare to become a secondary school teacher when, in 1940, the antisemitic decrees forbid her this profession.



FIGURE 4. Paulette Libermann (1919-2007)

She was helped by Élie Cartan, who suggested that she makes research instead and she worked under his guidance until 1942. She then left to Lyons where she managed to hide and survive until the Liberation. But she had decided to continue in mathematical research. She made a thesis with Charles Ehresmann (who had been the director of Jacques Feldbau). She worked on various geometric subjects, and in particular on what is now called symplectic geometry. Eventually she became a Professor at the University of Paris 7.

She would say, with a special smile: “Eventually, thanks to the Vichy politics, I became a researcher”.

References

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