

Jonathan Harwood

## Denkstile in der Genetik



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My major aim at the Wissenschaftskolleg was to complete a book entitled *Genetics in Germany: a Social History, 1900-1933*. Several years ago I was fascinated by Paul Forman's claim that quantum mechanics had emerged in Germany during the 1920s because of certain conditions peculiar to post-war German society' but felt that the argument could benefit from more systematic sociological analysis. I set out, therefore, to see whether I could identify a corresponding German *Sonderweg* in a science more familiar to me (genetics) and, if so, whether it made sense in terms of early 20th century German social history. By the time I arrived at the Kolleg I was confident that the practice of genetics in Germany was distinct in several respects from that in the United States: among other things, the Germans were more likely to work on classical 'big' issues in biology: development and evolution. And I could show that this contrast was due *in part* to differences in the structure and financing of higher education institutions in the two countries.<sup>2</sup> But I realised that this could not be the whole story, for German and American academics differed — then as now — in social status, interests and outlook, all of which were somehow bound up with that elusive concept, *Bildung*. But how?

While at the Kolleg I spent some of my time in local archives: the Archiv zur Geschichte der Max-Planck-Gesellschaft, the Berlin Document Center and *drüben* at the Akademie der Wissenschaften der DDR. Rather more trying were two archive trips 'abroad' which deprived me of Herr Spoerl's cooking for an entire week each time: to the Zentrales Staatsarchiv der DDR in Merseburg and a quick mopping-up tour of the university archives in Göttingen and Freiburg. Most of my time, how-

ever, was spent working out the overall structure of the book and writing four substantive chapters. I tried out one of these draft chapters ('Mandarins Confront Modernisation') in a colloquium at the Kolleg, and its final draft will benefit from Tim Lenoir's conference on 'Die Moderne' in German science and art, ca. 1880-1930. Dietrich Rüschemeyer's presence at the Kolleg was especially welcome since his past work on modernisation and the *Bildungsbürgertum* as well as his current work on the *Verein für Sozialpolitik* proved very helpful in understanding the changes going on in the German intelligentsia around the turn of the century. Another chapter ('The Politics of Nuclear-Cytoplasmic Relations') attempts to explain a controversy over the structure of the cell – in which geneticists frequently drew upon political metaphors in representing this structure – in terms of the different ways in which geneticists conceived of the academic's role in society. A condensed version of this argument provoked a certain amount of bewilderment at a conference in Stuttgart on 'Analogie in der Wissenschaft' organised by the Gesellschaft für Wissenschaftsgeschichte. In reworking this chapter and others, however, I have gained much from discussions with my *Berliner Kollege* Herbert Mehrtens (Wissenschaftskolleg 1986-87), a historian of mathematics who has wrestled with many of the historiographical problems central to my work.

Since I have yet to draft the introductory or concluding chapters of the book, my original aim has proved a bit optimistic. On the other hand, during the year I stumbled upon material which should make for an interesting paper on a remarkable figure: Richard Woltreck. Author of a concept still central to modern genetics, Woltreck developed a quasi-vitalist philosophy of biology and linked forces with Hermann Hesse to establish a journal of literature, philosophy and politics aimed at the German youth movement during the 1920s.

Over the course of the year at the Kolleg I learned to think about the German *Sonderweg* in different terms. When I first arrived my conception of this style of thought in genetics was rather static and monolithic, exaggerating its contrast with the American style. I came to realise, however, that the contrast between German and American styles (which I call 'comprehensive' and 'pragmatic', respectively) was evident within Germany itself. By and large, geneticists at German universities tended not only to work on classical problems but also to possess wide-ranging knowledge (both in biology and in the humanities), to find holistic and conventionalist assumptions plausible, and to adhere to the traditional mandarin's view that academics were 'above politics'. Those working at agricultural colleges, on the other hand, tended not only to work on more modern genetic problems, but also to have a more specialised knowledge of biology, to be largely uninterested in 'high culture', to defend reduc-

tionism and empiricism as research strategies, and to become active in party politics.

But this contrast in styles of thought must be seen dynamically as part of a specific historical process. And that process was the 'modernisation' of German society from the latter 19th century, a process which gradually eroded the social and intellectual homogeneity of the *Bildungsbürgertum*. With the emergence of *Realgymnasien* and *Oberrealschulen* as serious competitors for the traditional *Gymnasien*, the social class background of students — and eventually *Dozenten* — began to diversify. The graduates of this new sector were in many respects more modern in outlook than traditional university students: less enamoured with *Bildung*, less averse to commercial or technical occupations, and to some extent, less suspicious of party politics. It was natural, therefore, that such graduates would regard the *Technische Hochschulen* rather more favourably than did the sons of the *Bildungsbürgertum*. Accordingly, higher education remained segmented, at least for a time, with the traditional *Bildungsideal* ensconced in the universities and a modern technocratic vision, in the T. H.'s. In class background, schooling and style of thought, the pragmatic wing of the German genetics community was altogether 'modern' in this sense. Conversely, it is not only the comprehensives' school and class background, but also their striving for synthesis — whether in genetics, biology, the humanities or politics — which identifies them as traditional *Kulturträger*. In order to understand the segmentation of the genetics community, therefore —, with its diverse problem-definitions, methodologies and theories — one must look beyond the laboratory to the structural transformations occurring in German society at large.

## References

- 1 Paul Forman, "Weimar culture, causality and quantum theory: adaptation by German physicists and mathematicians to a hostile intellectual environment", *Historical Studies in the Physical Sciences*, vol. 3 (1971), 1-115.
- 2 I argue this point in "National Styles in Science: Genetics in Germany and the United States between the World Wars", *Isis*, vol. 78 (1987), 390-414.