tried to cope with the hopelessly divided institution bequeathed to him by Sir Joseph Banks.

Although all these phases and aspects of Davy's life are expertly, elegantly and insightfully handled, Knight's major achievement, it seems to me, is to provide a clear and convincing interpretation of the relations between Davy's chemical work, his philosophy of nature and his religious views. Davy was, as is well-known, uneasy with the atomic philosophy. His chemistry was ultimately a dynamical one in which forces and powers were the central reality. This, as Knight explains, stemmed in part from Davy's rejection of Priestleyan materialism. And this natural philosophy was congruent with his 'romantic temperament' (a problematic notion, but not analysable here), his view of his own genius, and his belief in the transport to higher planes of existence after death. It is in regard to this latter point that the concluding chapters of *Salmonia* and *Consolations in Travel* serve a very important function in the volume as a whole. It is a measure of Knight's skill that the reader acquires this insight into an essential unity of Davy's life without feeling any sense of being 'instructed' on it. We can be thankful that Knight ignored Sir Harold Hartley's advice back in 1967 not to "get too involved in philosophy" when writing about Davy.

A biographer inevitably, and at the very least, develops a relationship with the subject. Knight's relationship with Davy is a sympathetic one. He always seeks to understand, as would a friend, what many have taken as the less appealing features of Davy's character — his conceit, his love for rank, the charges of 'philistinism', the awkwardness of his conduct towards Faraday, his often curmudgeonly demeanour in his later years. Davy's rapid rise in science and in society inevitably brought sometimes less than sympathetic responses from his social superiors and from those seeking fame and power who felt that they would handle it differently. For the most part, Knight's identification with Davy provides useful correctives to the accounts of historians (including, in a small way, myself) who have sometimes seen Davy too much through the critical gaze of some of his contemporaries.

Although some of the pundits of the 'new biography' will undoubtedly find this account of Davy rather old-fashioned, Knight's well-known talent for accessible synthesis brings the man alive in a way useful both to those who would count Davy as an old, if still puzzling, friend and to those who seek to make his acquaintance for the first time.

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The Origins of American Social Science *by Dorothy Ross* (Cambridge University Press, Cambridge, 1991), pp.xxii + 508, $75.00, ISBN 0-521-35092-1.

Despite its title, Ross's account of the first hundred years of the social sciences in the United States devotes most of its formidable length to the period 1870-1930. The book's central claim is that "American Social Science owes its distinctive character to its involvement with the national ideology of American exceptionalism, the idea that America occupies an exceptional place in history,

based on her republican government and economic opportunity". Ross suggests that in consequence Americans of the ante-bellum period believed that their history would be exempt from the class warfare and poverty that troubled Europe. However, the effects of the Civil War, of loss of religious belief, and of far reaching industrialisation "precipitated a national crisis"; they made many social scientists believe that the further development of American republicanism and liberal principles would depend, as modern liberalism had in Europe, on the growth of "capitalism, democratic politics, and science". For this reason "the main body of social scientists" tried to find somewhere within these three fields of activity a set of underlying natural laws or principles that would guarantee the future success of their social values and the existence of a "harmonious liberal society". Ross then tries to show how the members of the various social sciences — political scientists, economists, sociologists, and historians — carried out their search, were affected by it and other factors, and in their own opinion either succeeded or failed.

The book's fifteen page index of names, most of them belonging to the American social scientists of her four disciplines, is a sobering sign of prolonged and arduous toil; but it is also a symptom of a misconceived project. For it is neither possible nor desirable, within the confines of one volume, to extract from the writings of some seventy or eighty authors their views and actions concerning "the ideology of American exceptionalism". The results are almost certain to display two unwanted features: first, an unfortunate resemblance to an opinion poll obtained by primitive methods; and second, the raising of a serious doubt as to whether all the people who were interrogated had been asked the same questions, had interpreted them similarly, or had given comparable answers. There is little evidence here that these requirements were met satisfactorily, and given Ross's vague characterisation of American exceptionalism, little reason to believe that they could ever have been fulfilled. She says that the earliest Protestant settlers thought that "the millennium was a progressive historical period on which the Reformed world was about to enter", and that when the American Republic was established it was taken to be "the advent of the millennial period that would usher in the final salvation of mankind and the end of history. American progress would be the unfolding of the millennial seed rather than a process of historical change". The drafters of the Constitution seemed to have provided for a republic whose democratic provisions and boundless resources would ensure its survival almost 'in perpetuity'. Political bribery, financial speculation, standing armies, mass manufacturing — all these would be guarded against by the existence of political democracy, a liberal market economy, citizens' militias, and the cultivation of civic virtue. Since Ross believes that after the Civil War none of these supposed defences against social and political "deterioration" was effective, it is a serious question how much the thesis of American exceptionalism can explain concerning the development of American social sciences. For given the thesis it appears that either their practitioners paid only lip service to American exceptionalism or that they had a remarkably feeble grasp of the character of their own society, and were thus largely incompetent. Neither alternative seems to be plausible, and neither would be acceptable to Ross.

What does seem to be true is that throughout the century with which Ross deals, large numbers of Americans and Europeans alike regarded the United

States as a country of almost unlimited economic and political opportunity as compared to the other countries with which they were familiar. For the most part, American practitioners of the social sciences shared this view. It was not, of course, a view held only of the United States. All the open land countries available to European immigrants in the nineteenth century — Canada, Australia, New Zealand, South Africa — were highly valued by their inhabitants, and by their immigrants, for much the same reasons as was the United States. In each case economic and political fantasies of an elysian future slowly gave way to less inflated expectations. We have to ask, then, whether American exceptionalism had unique features that affected its social scientists whereas Canadian or Australian exceptionalism, lacking such features, had different outcomes. Or were the social scientists of those other countries similarly affected? Millenarianism was present among the Boers in South Africa as it was in the United States; democratic governments existed in Canada, Australia, and New Zealand; industrialisation came, sooner or later, to all four countries as did, in varying degrees, poverty, class conflict, and loss of religious belief. The question at issue is not whether these factors influenced social scientists, for of course some of the factors did. The question is whether American social science was influenced in a different and distinctive way by factors that also existed elsewhere. Since nothing put forward by Ross supports an affirmative answer, it is not at all clear what is the "distinctive stamp" that American exceptionalism has supposedly given to the social sciences of that country. Nor is it apparent why she is convinced that her history shows that "American social science has consistently constructed models of the world that embody the values and follow the logic of the national ideology of American exceptionalism". One candidate is "scientism" — the attempt to treat the social disciplines as experimental natural sciences. However, this movement began not in the United States but in France with Condorcet, J.B. Say, Saint-Simon and Quetelot; and in Britain with James Mill, J.R. McCulloch, Richard Jones, and H.T. Buckle. Thus there was a long development of scientism before it surfaced in its American form in the early twentieth century. What was distinctively American about it was its late re-emergence long after exceptionalism could have directly influenced it.

Yet despite the trials and tribulations of Ross's general thesis, the details of her comments on particular people, their personal histories, and their cross-influences are full of interest, and the volume contains much material that would be difficult to find assembled elsewhere. A great deal of labour is displayed here, both in the large numbers of summaries of her subjects' views and attitudes, and in the very full and valuable set of references to the literature. Ross disapproves, and rightly so, of the widespread ignorance, and even hostility, shown by her social scientists concerning historical factors. But from this grave shortcoming it does not follow that some sectors of these fields are not genuine sciences or that all areas of the disciplines would benefit from a strong dose of history. Some would and some would not. Distinguishing one sort from the other would be a useful enterprise; and conversely, so would be the identification of specific historical problems to whose solution the social sciences could contribute.

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