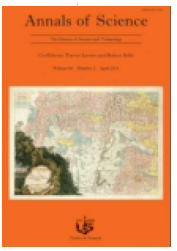
ANNALS OF SCIENCE, 36 (1979), 125–143

Karl Pearson and the Professional Middle Class



D. MACKENZIE

Department of Sociology, University of Edinburgh,
18 Buccleuch Place, Edinburgh EH8 9LN, Scotland

Received 30 July 1978

Summary

Karl Pearson (1857–1936) is a figure of interest to historians of many areas. The historian of mathematical statistics knows the inventor of the product-moment correlation coefficient and the chi square test; the historian of philosophy knows the author of the *Grammar of science*; the historian of genetics knows the opponent of Mendelism; the political historian knows the 'social-imperialist' political thinker; the historian of feminism knows the early supporter of the women's movement and friend of Olive Schreiner; and, of course, the historian of eugenics knows the first occupant of the only chair of eugenics in a British university. This paper does not attempt a biography of Pearson, but simply raises and tries to answer one question. To what extent can the sociology of knowledge throw light on Pearson's varied and many-sided thought? It concludes that there is a good case for seeing this thought as reflecting with exceptional clarity the social interests of the professional middle class to which he belonged.

Contents

1. Introduction

On the face of it, applying the sociology of knowledge to an individual such as Karl Pearson may seem an unlikely enterprise.[1] The sociology of knowledge is often held to involve propositions such as 'all (or most) believers in situation type z adopt beliefs of type x'.[2] But is is patently clear that most members of the British professional middle class around 1900 adhered to systems of belief quite different from those propounded by Pearson. In no way was Pearson an 'average' member of the professional class. If the task of the sociology of knowledge is to advance statistically-valid generalizations about the association of social position and professed belief, it can tell us little about the relation of Pearson's thought and the position of the professional middle class.

[1] I have found the following biographies of Pearson particularly useful: E. S. Pearson, *Karl Pearson: an appreciation of some aspects of his life and work* (1938, Cambridge); Churchill Eisenhart's article on Pearson in the *Dictionary of scientific biography*, vol. 10 (1974, New York), 447–473; and B. J. Norton, 'Karl Pearson and statistics: the social origins of scientific innovation', *Social studies of science*, 8 (1978), 3–34.

[2] See L. Laudan, *Progress and its problems: towards a theory of scientific growth* (1977, London and Henley), 217.

Yet this is perhaps a limited view of the nature of the propositions of the sociology of knowledge. There is another approach, quite alien to the Anglo-Saxon empiricism of the above view, which has its roots in the work of Georg Lukács and Lucien Goldmann.[3] While this approach is not without its problems, it offers us what may be a more promising research programme. It is an explicitly theoretical approach. It begins with a theory of social structure; locates certain positions in that structure; posits social interests associated with these positions; and argues that the operation of these interests, if unopposed, would lead to tendencies to particular patterns of evaluation of existing knowledge and construction of new knowledge. It does not, however, imply that the thought of all (or, indeed, any) occupants of the social positions in question will manifest these tendencies. The point is that the operation of social interests is seldom unopposed. The ideology of other groups may be an opposing factor, especially if embodied in institutional forms such as the education system, the mass media, and so on. Particularistic loyalties may cross-cut social interests: for example, nationalism may conflict with international class solidarity. Identification with groups other than that to which one belongs, personal idiosyncracies and psychological factors may also be important.

An analogy from the sociology of politics may help clarify this. To say that political party P expresses the interests of group G is not to imply that all members, or even most members, of G vote for P. It is rather to assert that P's policies, if put into effect, would enhance the wealth, status, power, security and so on of G. Differential support for P between members and non-members of G *might* then be expected, but it is not implied: for example, the hold of other parties may be so strong that only a small minority of the members of G vote for P.

Of course, the notion of the 'interests' of those in a particular social position is inherently contestable. Indeed, were these interests made manifest by some clear and unequivocal process, then the sociology of knowledge might be viable in the above empirical form. But they are not, and the best we can do is posit them theoretically. We may well expect to be opposed by those who claim we are mistaken in our theory; as far as the sociology of knowledge goes, the only resolution of this must lie in the relative explanatory merits of different theories of structure and interests.

What might be said to be the social interests of the professional middle class of Britain of around 1900? To answer this question, it is necessary first to consider the social position of the professionals. They did not directly belong to any of the major classes of Victorian society: the land-owners, the industrial and financial bourgeoisie, the manual working class. On the one hand, they were relatively privileged in their position in society, and might thus be expected to lean to conservatism. On the other, what they actually did as lecturers, doctors, architects, civil servants, and so on, was arguably necessary in some form to any modern society, not merely to a capitalist one organized on *laissez-faire* lines; there was thus the possibility of non-conservative political responses. So there is no way of automatically predicting a tendency in party-political views. That is not to say, however, that we can posit no social interests of political relevance. The particularity of the professionals' position was that it rested not on the ownership of land, nor on the ownership of capital, nor on their capacity for physical work, but on their claim to specific mental skills and accredited knowledge. Their social interests thus presumably lay in the defence of

[3] G. Lukács, *History and class consciousness* (1971, London); L. Goldmann, *The hidden God* (1964, London).

these skills and knowledge against outsiders (the strategy of 'professionalization' itself), and, more generally, in promoting them as a proper source of power and reward. A tendency to 'meritocracy', to an ideology of the 'expert', might then be expected. This would both differentiate the professionals from the mass of manual workers, emphasizing the importance of mental rather than manual labour, and claim a place for expertise in partnership with, or even in command over, capital and land.

Harold Perkin points to the growth in the nineteenth century of a common sense of identity and social position amongst the British professionals:

> With urbanization and the rise of living standards, doctors, lawyers, writers, and even the clergy (including dissenting ministers) found an enlarged demand for their services, which reduced their dependence on the few rich . . . The transition enabled them to acquire a greater measure of self-respect, and to demand corresponding respect from society . . . At the same time new professions proliferated, and organised themselves to demand the same kind of status and independence as the old.[4]

Originally, Perkin argues, this stratum had tended to provide intellectual spokesmen for other social classes: the aristocracy, bourgeoisie and, to a much lesser extent, the manual working class. Gradually, however, specifically 'professional' ideologies began to be elaborated; firstly, amongst the interlinked élite of the professionals, 'the intellectual aristocracy', and later amongst the 'new social class' of professional employees.[5] A professional ideal, mirroring the social interests of the professionals, began gathering support. Perkin writes of the professionals: 'Their ideal society was a functional one based on expertise and selection by merit. For them trained and qualified expertise rather than property, capital or labour, should be the chief determinant and justification of status and power in society'.[6] There are no attitude surveys to tell us what percentage of the professional middle class adhered to this view. Nevertheless, it undoubtedly was present and, at least according to the perspective taken here, it did reflect professional social interests.

But this kind of general analysis leaves us still a long way from the thought of particular individuals. However, Goldmann suggests an approach that may be helpful here. What is posited in his sociology of knowledge is merely a tendency in thought common to a set of social roles. This tendency will, presumably, be more strongly manifested at some times rather than others: 'class consciousness' may be particularly strong at times of revolutionary upheaval, say. At the same time, and more relevantly here, it may be more strongly manifested in the thought of some individuals rather than others, individuals that Goldmann refers to as 'exceptional'.[7] Goldmann himself is somewhat unclear on how this is to be understood. However, it seems that he does not mean exceptional in the sense, say, of 'exceptionally intelligent'. Perhaps some more sociological sense of 'exceptional' can be found.

All societies of any complexity are structured in more than one way and at more than one level. Thus we can identify within any given society an *overall structure*, such as a class structure, and a *fine structure*, consisting of all sorts of more particular

[4] H. Perkin, *The origins of modern English society, 1780–1880* (1972, London), 254–255.

[5] N. G. Annan, 'The intellectual aristocracy', in J. H. Plumb (ed.), *Studies in social history: a tribute to G. M. Trevelyan* (1955, London), 241–287; E. J. Hobsbawm, 'The Fabians reconsidered', in his *Labouring men* (1968, London), 250–271.

[6] H. Perkin (footnote 4), 258.

[7] L. Goldmann (footnote 3), 18.

gender, occupational, kinship or generational structures, and of specific institutions such as state apparatuses, educational institutions, political parties or trade unions. If our theory seeks to relate ideas to the overall class structure, then we must expect the fine structure of the society, in so far as it does not run parallel to the overall structure, to generate particular interests and experiences and thus to cross-cut and 'suppress' this relation. The fine structure produces interference from the point of view of our overall pattern of explanation. So perhaps we can expect 'exceptional individuals' to be found in structural locations and historical situations where the 'distorting' effects of the fine structure are least. It is clearly impossible without much study to specify these locations and situations. We can at present identify exceptional individuals only on the basis of their thought. So they cannot provide an independent check on the validity of our theory. But if our theory is correct we should at least expect it to provide a coherent and convincing account of the thought of these individuals.

Below, I investigate the extent to which Pearson's thought can be seen as, in this sense, 'exceptional'. My account is based, ultimately, on a hypothesized structural connection between the social position of the professional middle class, its interests, and certain patterns of ideas. However, I shall attempt to examine this structural connection in a particular manifestation, the thought of Karl Pearson.

2. Pearson's politics

Karl Pearson's political views seem to have been formulated largely in the period 1879–1888. In the former year, aged 22, he was placed Third Wrangler in the Cambridge Mathematics Tripos and subsequently was awarded a Fellowship of King's College that supported him financially until in 1884 he became Professor of Applied Mathematics and Mechanics at University College London. The intervening years were of travel and study (especially in Germany), thought, lecturing and writing, and were years in which mathematics seemed to concern him much less than his general political, philosophical and historical studies. In 1888 he published the *Ethic of freethought*,[8] a collection of essays in which his political position emerges clearly.

His childhood was not exceptional for the Victorian professional middle class. The son of a lawyer—an upwardly-mobile, independently-minded, hardworking, rather stern man—Karl Pearson seems to have been a delicate, serious-minded, academically-oriented child.[9] In his undergraduate years he passed through the not unusual experience of a loss of Christian faith. 'I think I have definitely rejected Christianity', he wrote in 1877.[10] In 1877–1878 he rebelled, individually but ultimately successfully, against compulsory divinity lectures in King's College.[11] Secular, social concerns began to replace religious ones: 'our god is the welfare of the race'.[12] The poverty and squalor of Victorian England, and the complacent superficiality of Cambridge University, are themes that began to appear in his

[8] K. Pearson, *The ethic of freethought* (1888, London); cited below as '*Ethic*'.

[9] The Karl Pearson Papers, University College London, CII D1, contain some interesting letters from Karl Pearson to his family. I am grateful to the Social Science Research Council for a grant that enabled me to examine the Pearson Papers. Pearson gives an interesting characterization of his father in a letter to Francis Galton printed in K. Pearson, *The life, letters and labours of Francis Galton* (3 vols. in 4, 1914–30, Cambridge), vol. 3A, 327–328.

[10] First Common-Place Book, Pearson Papers, CII D1B, 33.

[11] See the correspondence in the Pearson Papers, CII D1J.

[12] First Common-Place Book (footnote 10), 40.

thought.[13] Yet no clear alternative to the Victorian conventional wisdom emerged in his thinking.

The spur to the development of such an alternative seems to have been his contact, in 1879–1880, with German social democracy. In Heidelberg, seeking practice in German conversation, he became friendly with Raphael Wertheimer, a social democratic student. The middle class youth from a Britain still awaiting the 'socialist revival' of the 1880s discovered a new world of radical politics, *Das Kapital*, and police searches.[14] Rapidly, Pearson became acquainted with the range of socialist thought from insurrectionist anarchism to Bismarckian 'state socialism', and he began to construct his own political position.

This position was expressed in his published and unpublished writings from the early 1880s. In this categories of the time, it was undoubtedly a socialist position. Yet it was by no means a revolutionary one. Pearson saw the socialist movement as split into what we would now call 'revolutionary' and 'reformist' camps, and it was clearly with the latter that he identified himself. *Laissez-faire* capitalism was, he felt, a system of inefficient, anarchic competition. It had to be replaced by a system of state planning, with all capital concentrated in the hands of the state. This change must not be attempted by revolutionary means, but by slow and gradual reform, with the capitalists being compensated for the loss of their property. Class conflict should be avoided, and the socialist should instead preach class harmony and the loyalty that all citizens owed to the state. There was no question of the state 'withering away' under socialism: it was envisaged as still a power over society, a body of officials charged with planning and administration.

Of course, this was a political position that was soon to become prominent in Britain with the formation of the Fabian Society—though it must be emphasised that Pearson's views were developed independently of, and prior to, its establishment. Although Pearson never, to my knowledge, joined the Fabian Society, in political terms he was nevertheless very close to it. He was a personal acquaintance of leading Fabians such as Sidney Webb and George Bernard Shaw, and in his published writings showed considerable sympathy for the Fabians' cause.[15]

Eric Hobsbawm has analyzed Fabianism as a political expression of the interests of the emerging stratum of white-collar and professional employees. *Laissez-faire* frustrated these men and women, who were unable 'to find a firm place in the middle- and upper-class structure of late Victorian Britain'. In response, they turned to socialism, but the élitist socialism of planners, administrators and experts, involving no 'transfers of class allegiance', no commitment to the manual working class.[16]

Pearson's early writings illustrate this. He saw British social structure as made up of four major classes, based respectively on 'birth', 'capital', 'learning' and manual labour.[17] The working class was further subdivided, as was common in Victorian Britain, into 'the better class of working man' and 'the dumb, helpless masses of our great towns, the Proletariat pure and simple'.[18] Pearson's viewpoint had two major poles. Firstly, it was based on a perception of himself as a member of

[13] First Common-Place Book (footnote 10); 'Loki' [K. Pearson], 'A farewell to Cambridge', *Cambridge review*, **2** (1881), 190–91, gives some evidence of Pearson's gradual disillusionment with Cambridge.

[14] B. J. Norton (footnote 1), 22–24; and Pearson's letters to Robert Parker, Pearson Papers, CII D1.

[15] See his review of *Fabian essays in socialism* in *The Academy*, **37** (1890), 197–199.

[16] E. J. Hobsbawm (footnote 5).

[17] K. Pearson, 'Social democracy in Germany', Pearson Papers, CII D2J.

[18] K. Pearson, 'Anarchy', *Cambridge review*, **2** (1881), 268–270.

the class based on 'learning', with interests quite distinct from the classes based on 'birth' and 'capital': 'the man who earns his money by his brains has just as little capital as the workman'.[19] Secondly, for all his socialism Pearson feared and despised the 'Proletariat pure and simple' just as much as any of his more conservative peers, and in particular was deeply concerned with their insurrectionary potential.

In the tension of these two poles Pearson's political position was worked out. An 1881 article for the *Cambridge review* entitled 'Anarchy' reveals this particularly clearly. The London poor were seen as a revolutionary threat: 'Those emaciated beings, weak and feeble as they look, have power to break the half-inch of glass which separates them from the weapons they require...'. The consequence of such a revolution would be catastrophic: 'night, blackest night'. To ward it off, 'the revolution must be carried through from above'. A society stratified in terms of wealth could perhaps be replaced by one stratified in terms of 'education and culture': '... while power material shall be divided as equally as may be between the various classes, power intellectual shall form a scale on which the necessary graduation of society may take place. Power intellectual shall determine whether the life-calling of a man is to scavenge the streets, or to guide the nation'. But it was unlikely, Pearson concluded pessimistically, that 'the ruling Bourgeoisie' would easily accept a change from plutocracy to meritocracy. 'We seem as it were drifting helplessly onward to the brink of a terrible and unexplored abyss...'.[20]

Elsewhere, Pearson called for a common front of professionals and manual workers against the idle rich: '... how little is the conception of comradeship between the hand-worker and the brain-worker generally grasped! When will the two unite to expel the drone from the community...?'.[21] Intellectuals in Britain should follow the example of their Russian counterparts and ally themselves to popular movements. The motive for this alliance was, as the Russian author quoted by Pearson claimed, self-interest rather than altruism: 'If the peasants prosper, the educated classes will prosper also; if the peasants become masters of their destinies, enjoy freedom and real and not fictitious self-government, the educated men will acquire all the political and social influence due to their capacity as managers, teachers and political representatives of the masses'.[22]

There was a governing class in Britain, Pearson argued, which was composed of the 'owners of land and owners of capital'. The 'educative' and 'productive' classes were excluded from power by this governing class. Pearson called for the transition from a social system based on wealth to one based on labour. But this did not mean simply manual labour: 'The man who puts cargo into a ship is no more or less a labourer than the captain who directs her course across the ocean; nor is either of them more of a labourer than the mathematician or astronomer whose calculations and observations enable the captain to know which direction he shall take...'.[23] Because all kinds of labour are necessary parts of an integrated division of labour, it must be an 'axiom' of socialism that 'all forms of labour are equally honourable'. Nevertheless, there was little doubt in Pearson's mind that head work was, in the long run, more important than hand work: 'There is labour of the hand, which

[19] K. Pearson (footnote 17).
[20] K. Pearson (footnote 18).
[21] K. Pearson. 'The Russian storm-cloud', *Cambridge review*, 8 (1886), 406–407 (p. 407).
[22] S. Stepniak, quoted *ibid.*
[23] *Ethic*, 348 and 353.

provides necessaries for all society; there is labour of the head, which produces all we term *progress*, and enables any individual society to maintain its place in the battle of life—the labour which educates and organises'.[24]

Thus, Pearson's socialism in no way implied a shift of identification to the working class. It was to the class of 'head workers' that he owed allegiance. He was no egalitarian, and his socialism might well be described, like that of the group of German *Katheder-Socialisten* which he admired, as a 'socialism of professors'.[25]

Pearson's political position can thus be analyzed as one appropriate to the interests of a rising professional middle class. It was a strategy for containing revolutionary pressure by a process of gradual reform, while slowly edging the bourgeoisie out of positions of power, and replacing a society based on wealth by one based on knowledge and mental skills. Further, in its full development, Pearson's position can in a certain sense be seen as more consistent than the Fabianism of the Fabian Society. The crucial issue on which Pearson differed from the majority of Fabians was that of political democracy and the extension of the franchise. The Fabians saw universal suffrage as the path to socialism: Pearson did not.[26] Reviewing the first edition of *Fabian essays*, he wrote: 'Personally dreading an uneducated democracy as much as a prejudiced aristocracy... we cannot but deprecate this identification of socialist and social-democrat'.[27] Instead, Pearson's ideal was, as he expressed it elsewhere, 'the cautious direction of social progress by the selected few'.[28]

What are we to make of this divergence? Aside from this point, Pearson's view on socialist strategy coincided almost exactly with the Fabians'. It was not the case that Pearson had a more jaundiced view of the working class than did most Fabians. In 1889 the Fabian journal *Today* did not merely approve Booth's plan to force the chronic poor into labour colonies, but enthused about it as a harbinger of the collectivist change Fabians desired.[29] Rather, the difference should perhaps be seen as that between expediency and consistency. The Fabians were seeking political influence, first through the Liberal and later the Labour Party: an extension of the franchise, they calculated, could only increase the pressure to social reform, and thus strengthen their position. The 'fine structure' of British politics dictated that they support the extension of political democracy. But critics of the Fabians sensed that their commitment to democracy was less than total. 'At heart [their] principal leaders are bureaucrats not democrats', one wrote.[30] Pearson, on the other hand, was uninterested in calculations of particular political advantage. In his thinking he was affected only by the 'overall' structure of classes, they by the 'fine' structure of institutions. So in the sense suggested above he can perhaps be regarded as an 'exceptional individual'.

3. Pearson's philosophy

To see 'politics' as relating merely to the 'party-political' issues discussed in the previous section would be to adopt a narrow perspective. Pearson's philosophical

[24] *Ethic*, 355; Pearson's emphasis.

[25] See Pearson (footnote 17), also 'Loki' [K. Pearson], *The new Werther* (1880, London), 34.

[26] Apart, that is, from in his very early political thinking. See his letter to Parker of 28 December 1879, Pearson Papers, CII D1.

[27] Pearson (footnote 15), 198.

[28] *Ethic*, 322.

[29] G. Stedman Jones, *Outcast London* (1971, Oxford), 314.

[30] Quoted by Hobsbawm (footnote 5), 264.

thought can also be seen as political, and as reflecting particular social interests. It was by no means idle speculation, nor an abstract choice of methodology, but the active forging and controversial use of what he felt to be appropriate theories of morality and of knowledge.

The germs of Pearson's philosophy can, like those of his socialism, be found in his early study and thinking, especially in Germany. Again, no passive 'influence' model can account for the development of Pearson's philosophy. As his 'Common-Place Books' and correspondence with his closest friend, Robert Parker, show, Pearson exposed himself to a wide range of philosophies, and actively chose among them.[31]

Pearson developed a moral philosophy that can be summed up in two maxims: '... morality is what is social, and immorality what is anti-social... The ignorant cannot be moral'.[32] He had rejected—not altogether painlessly—all systems of absolute morality. Neither Christianity, nor the ethics of Kant or the neo-Hegelians, satisfied him. But what he put forward instead was not an ethical relativism, as might at first be assumed from the statement 'morality is what is social'. Morality was not simply the following of group norms. The truly moral actor had to take into account not only the existing state of society but also the direction of its evolution: 'One thing only is fixed, the direction and rate of change of human society at a particular epoch. It may be difficult to measure, but it is none the less real and definite. The moral or good action is that which tends in the direction of growth of a particular society in a particular land at a particular time.'[33] This is why 'the ignorant cannot be moral'. Only the individual who has knowledge of science and history, and is therefore acquainted with the scientific laws of social evolution, can know which course of action is moral.

By discarding traditional systems of morality, this ethical theory undermined the power of the priests and their allies within philosophy, the 'emotionalists, mystics and metaphysical idealists'.[34] By the premium it placed on action based on knowledge of social evolution, it enhanced the role of the possessors of this knowledge. By making nonsensical any talk of 'rights', it could be used to oppose the rhetoric of those who sought to whip up emotions in pursuit of over-rapid change. Talk of 'rights' led too easily to revolutionary upheaval. Pearson felt: it was 'the enthusiasm of the market place'. Consideration, instead, of the laws of social development led to moderation and the avoidance of revolutionary agitation, to the intellectually sound 'enthusiasm of the study'.[35]

If scientific knowledge decided what was and was not moral, Pearson clearly needed to demarcate the boundary between properly scientific knowledge and mere belief. The key to his epistemology was the construction of just such a boundary. His philosophy of science emerged gradually, from early reflections on Kant through contact with the ideas of Clifford and Mach.[36] But in its mature presentation in the

[31] See the material cited in footnotes 10 and 14, also the second and third Common-Place Books, Pearson Papers, CV D2.

[32] *Ethic*, 117 and 122.

[33] *Ethic*, 428.

[34] K. Pearson, as quoted by Norton (footnote 1), 26.

[35] See *Ethic*, 115–134.

[36] See the discussion by Norton (footnote 1), 14–15 and 24–26.

Grammar of science[37] it constituted an important and impressive contribution to positivist and phenomenalist thought.

All knowledge, Pearson argued, was based on sense-impressions; it was impossible meaningfully to discuss the unknown and unknowable 'things-in-themselves' that metaphysicians saw as lying behind sense-impressions. The task of science was simply to describe as economically as possible the 'routine of perceptions'. Concepts that were firmly based on experience, and those that contributed to economy of description, were allowable: others were to be banished. The sphere of science as thus delimited was co-extensive with the sphere of all valid knowledge. Certainly, there were types of phenomena that had yet to be satisfactorily described by science, but there were no phenomena to which the scientific method was not applicable. What was not science was simply not knowledge.

Again, Pearson's theory of knowledge can be seen as a politically useful weapon. The proponent of expertise must surely have welcomed the denial of the title 'knowledge' to all areas apart from properly constituted sciences. Pearson's philosophy of science was a superb polemical tool for revealing 'superstition' and 'metaphysics' in the thought of opponents. It could be used to attack those who wished to insulate areas of belief from the encroachment of science, and those who claimed that new 'sciences' such as psychical research proved the existence of a spirit world. His theory of knowledge was thus both a legitimation of 'scientism' and a political resource for the scientistic, progressive, 'expert'.

4. Pearson's Darwinism

It is not surprising that Karl Pearson should have been an ardent Darwinian. To be a Darwinian was to ally oneself with progress against reaction, with the secular against the religious, and with the rising scientifically-based professions against the still powerful Established Church. Despite the availability of a whole range of intermediate positions between Darwinian naturalism and scriptural anti-Darwinism,[38] Darwinism remained a potent cultural symbol. Pearson embraced that symbol ardently. Interestingly enough, however, he did not do so until the mid-1880s (*after* his first writings on politics and philosophy), and the manner in which he finally came to Darwinism is of some significance.

Pearson came to Darwinism not as a biologist—he showed almost no interest in biology as such until the 1890s—nor even, primarily, as a freethinker seeking a weapon against revealed religion. To him, Darwinism's prime importance was as a theory of history. 'The philosophy of history is only possible since Darwin', he wrote.[39] During the early 1880s Pearson devoted a good deal of time to historical studies, particularly early German history. As these proceeded he came to feel that evolutionary theory provided a means of integrating them and drawing the general lessons from them.[40]

From the beginning, then, Pearson's Darwinism was explicitly a social Darwinism. The laws of social development that were to be the basis for moral action had to be derived, Pearson felt, from a Darwinian study of history. He drew two major conclusions from this study, one of them orthodox, the other less conven-

[37] 1892, London.

[38] See F. M. Turner, *Between science and religion: the reaction to scientific naturalism in late Victorian England* (1974, New Haven, Connecticut).

[39] *Ethic*, 430.

[40] See his letter to the editor of the *Manchester guardian*, 15 February 1901, for his account of this.

tional. Both, however, can be seen as fitting closely his earlier political thought. Nature was being developed as a resource in social and political argument.

Pearson's orthodox conclusion concerned natural and social change. As a political thinker, he had already firmly decided against revolution and in favour of gradual and orderly change. Indeed, he saw a key aspect of the role of the intellectual to be the defence of this conclusion: 'There are mighty forces at work likely to revolutionise social ideas and shake social stability. It is the duty of those, who have the leisure to investigate, to show how by gradual and continuous change we can restrain these forces within safe channels . . . '.[41] In part, he argued for this conclusion from descriptive historical studies, most notably his vivid account of the failure and terrible fate of the millenial communist 'Kingdom of God' in Münster.[42] But he also appealed to continuity and gradualism in nature as an argument against revolution in society: 'Human progress, like Nature, never leaps . . . *no great change ever occurs with a leap* . . . is as much a law of history as of nature'.[43] Pearson never employed the Fabian slogan of 'the inevitability of gradualness', but it was a principle that underlay his thinking about both nature and society.

Pearson's other conclusion concerned the way in which natural selection operated on contemporary human societies. Social Darwinists of the previous generation had typically employed the notion of selection operating on individuals as an argument for *laissez-faire* and against state intervention as interfering with the destruction of the less fit. To Pearson this was a politically unacceptable conclusion. Darwinism had to be rescued from the *laissez-faire* individualists and turned into a legitimation of collectivism and a strong state.

The way in which he did this was simple. He argued that the chief locus of the struggle for existence was no longer the individual but the group. The spur to efficiency was not individual competition, but inter-group struggle: survival went to the fittest group, not the fittest individual. In inter-group struggle, the social organization of the group counted for as much, or indeed more, than the individual fitnesses of the individuals comprising the group. The internal competition that resulted from *laissez-faire* capitalism weakened a nation in international struggle. A class-divided nation, with an unfit and disaffected proletariat, could hardly hope to compete successfully with a well-organized and united state.[44] For a man who was a British nationalist rather than an internationalist, the future of the British nation—or, biologically, the British 'race'—was the prime political imperative.

Pearson was by no means the only individual who, in the 1880s, was seeking to modify the individualistic thrust of previous social Darwinism. It was, of course, natural that those who formed the 'socialist revival' of the 1880s should seek to show that Darwinism need not be individualist and *laissez-faire* in its social implications. But another factor may also have been at work: the growth, both in reality and as a factor in popular consciousness, of imperialism. The 'internal' social Darwinism of Spencer could be used to justify a competitive capitalist order within one nation. The

[41] *Ethic*, 7.
[42] *Ethic*, 263–314.
[43] *Ethic*, 122 and 363; Pearson's emphasis.
[44] The fullest statement of these views is in Pearson's essay 'Socialism and natural selection', in his *The chances of death and other studies in evolution* (2 vols., 1897, London), vol. 1, 103–139. This book is cited below as '*Chances*'.

new 'external' social Darwinism could be used to justify the economic and military competition of advanced nations and their ruthless exploitation and extermination of 'inferior' peoples.[45]

These two explanations of the transition in social Darwinism in the 1880s should not be taken as contradictory. We now tend to think of socialism and imperialism as opposites. But in the period 1880 to 1914 socialism of certain brands, such as Fabianism, was closely linked to imperialism. Collectivist social reform was needed, it could be argued, to secure national efficiency in the inter-imperialist struggle; the profits of imperialism could, in turn, finance social reform. As the First World War was to demonstrate, many state socialist demands could be won under the pressure of a threat to national survival.[46]

In his book on 'social-imperialism', this conjunction of imperialism and social reform, Bernard Semmel takes Karl Pearson as a key example of a social-imperialist thinker.[47] Pearson's social Darwinism, with its emphasis on maximizing group efficiency for the struggle between groups, was a perfect legitimation of social-imperialism. Again, Pearson was putting forward in particularly coherent fashion an ideology expressing the interests of his social group. Imperialism vastly broadened the job opportunities for professionals,[48] and social-imperialism, with its emphasis on technocratic, collectivist reform, was an attractive short-cut to power for the rising professional experts. Pearson's *National life from the standpoint of science*[49] argued that scientific expertise should determine the path to national survival. State socialism and a rationalized imperialism were, in Pearson's mind, necessary allies, not enemies: 'No thoughtful socialist, so far as I am aware, would object to cultivate Uganda *at the expense of its present occupiers* if Lancashire were starving. Only he would have this done directly and consciously, and not by way of missionaries and exploiting companies'.[50]

5. Pearson's eugenics

Pearson saw two great social movements as crucial to the development of British society of his time. The first, of course, was the socialist movement. The second was the women's movement. From early on Pearson was in sympathetic contact with feminism. He was a member of a small circle of men and women who came together in the 1880s to discuss the relation of the sexes, the 'Men's and Women's Club'. His essays of this period show him prepared to take seriously, if not to endorse unequivocally, radical proposals such as for 'free unions' to replace conventional marriage.[51]

Pearson had reservations about feminism paralleling closely those he had about socialism. 'We cannot possibly check' the women's movement, he wrote, but the implication was not that it should be supported uncritically but that an endeavour should be made to 'direct' it so that it should not undermine social stability.[52]

[45] R. Hofstader notes a similar transition in American social Darwinism in his *Social Darwinism in American thought* (1968, Boston).

[46] See A. Marwick, *The deluge: British society and the First World War* (1967, Harmondsworth), 162–202 and 244–276.

[47] B. Semmel, *Imperialism and social reform: English social-imperial thought, 1895–1914* (1960, London).

[48] H. Gollwitzer, *Europe in the age of imperialism, 1880–1914* (1969, London), 86.

[49] 1901, London.

[50] *Chances*, vol. 1, 111; Pearson's emphasis.

[51] *Ethic*, 442–443.

[52] *Chances*, vol. 1, 243.

Nevertheless, Pearson's contact with feminism brought him in touch with thinking far different from that conventional in Victorian Britain. In particular, sexual morality was for him an open, rather than a closed, question.

His answer was, given the rest of his thinking, not surprising: '... the test is the social or antisocial effects of the act'.[53] A major possible effect of the sexual act between men and women is the production of children, and it was to this that Pearson's contributions to the Men's and Women's Club began to turn. During the middle and late 1880s he became a eugenist. 'Shall those who are diseased, shall those who are nighest to the brute, have the right to reproduce their like?', he asked, and answered firmly in the negative. Part of the 'socialistic solution' to the sex problem was 'state interference if necessary in the matter of child-bearing'. The 'anti-social propagators of unnecessary human beings' had to be restrained.[54]

Eugenics became more and more prominent in Pearson's writings as earlier themes became less so. His earlier concerns were *condensed* into his eugenics.[55] He saw his eugenics as integrally linked to his politics; at the same time it was an application of his moral philosophy to human reproduction and a science to be developed along the lines decreed by his epistemology; finally, the necessity of a programme of national eugenics was, he felt, a direct consequence of the application of evolutionary theory to the contemporary world of international competition.

For example, Pearson saw socialism and eugenics as inseparable. Natural selection had to be replaced by artificial selection to ensure that the 'unfit' did not outbreed the 'fit' in a socialist nation. At the same time, socialism was arguably a precondition for eugenics. A eugenic policy was unlikely to be successful under *laissez-faire* capitalism, chiefly because capitalists desiring large supplies of cheap unskilled labour had an interest in maintaining the rate of reproduction of the 'unfit' at home and permitting large-scale immigration of the 'unfit' from abroad. In sum: 'The pious wish of Darwin that the superior and not the inferior members of the group should be the parents of the future, is far more likely to be realised in a socialistic than in an individualistic state'.[56]

Pearson may well seem to be making common cause with arch-reactionaries when he pointed to the anti-eugenic effects of the abolition of child labour in turning a child from an economic asset to a straightforward expense amongst the 'better class' of workers. But it is important to realise that in such matters he was *not* calling for a return to the past: 'Do I therefore call for less human sympathy, for more limited charity, and for sterner treatment of the weak? Not for a moment...'[57] What he wanted was rationalization, planning, conscious state intervention—as he understood it, socialism—applied to matters concerning human reproduction: '...I demand that all sympathy and charity shall be organized and guided into paths where they will promote racial efficiency, and not lead us straight towards national shipwreck'.[58]

[53] K. Pearson, 'Emancipation?', Pearson Papers, CV D6A, 13.

[54] *Ethic*, 391, 433 and 445.

[55] In arguing this I am opposing the view of N. Pastore in *The nature-nurture controversy* (1949, New York), 29–41, who sees Pearson as a socialist environmentalist before 1900 and a conservative hereditarian after 1900. I can see no such radical break in Pearson's thought.

[56] *Chances*, vol. 1, 138.

[57] K. Pearson, *The scope and importance to the state of the science of national eugenics* (Eugenics Laboratory lecture series, I, second edition: 1909, London), 25.

[58] *Ibid.*

What was the relation between eugenics and the professional middle class? Farrall has documented the overwhelming preponderance of the professional middle class amongst the membership of the Eugenics Education Society.[59] Searle has pointed out that in eugenic propaganda 'the professional middle classes and the intelligentsia' were 'the heroes of the play'.[60] I would argue that neither of these fact are accidental. Eugenics appealed to a social group that owed its position to its knowledge, educational qualifications and supposed mental ability. Eugenists claimed that mental ability was a thing-like property of individuals,[61] was concentrated in a restricted proportion of the population and had a strong tendency to hereditary transmission—ideas that professionals might be expected to find congenial. In addition, the eugenic solution to the social problem of the urban sub-proletariat would employ the statistician's figures, the biologist's studies, the psychologist's tests, the social worker's case reports and ultimately the psychiatrist's custodial care or the surgeon's scalpel. It would thus give full play to the skills of the developing scientific professions.[62]

Practical eugenics, Pearson wrote, is concerned with two fundamental problems: 'the production of a sufficient supply of leaders of ability and energy for the community'; and 'the provision of intelligent and healthy men and women for the great army of workers'.[63] 'Leaders' would have to be recruited predominantly from the existing middle class. It was true that individuals of ability could be found in the manual working class, but these were few, and 'It is cruel to the individual, it serves no social purpose, to drag a man of only moderate intellectual power from the hand-working to the brain-working group'.[64] It was both 'undesirable' and 'impossible' to 'subject every individual in the nation to a test of fitness for every possible calling'. Instead it had to be recognized that class was an approximate but useful indicator of innate ability. 'With rough practical efficiency a man's work in life is settled by his caste or class'. In particular:

> ... the middle class in England, which stands there for intellectual culture and brain-work, is the product of generations of selection from other classes and of in-marriage.
>
> ... [working class] county council scholars are on the average not up to the mean middle-class intelligence. It is very rarely that one could not pick out for any given post better, often many better, middle-class candidates.[65]

So the social divide between 'hand-work' and 'brain-work' was seen by Pearson to correspond at least roughly to a natural divide between different innate abilities. The manual worker was to be educated in such a way as to become 'an intelligent instrument for his allotted task', but in a quite different way from the professional: 'We need a system of education for the bulk of men, who follow, entirely independent of the system requisite for the minority, who organize and lead.'[66]

[59] L. A. Farrall, 'The origins and growth of the English eugenics movement, 1865–1925' (1970, Ph.D. thesis, Indiana University, Bloomington).

[60] G. R. Searle, *Eugenics and politics in Britain, 1900–1914* (1976, Leyden), 59.

[61] On this point see L. Levidow, 'A Marxist critique of the IQ debate', *Radical science journal*, no. 6/7 (1978), 13–72.

[62] This paragraph is a condensed version of the argument of D. MacKenzie, 'Eugenics in Britain', *Social studies of science*, **6** (1976), 499–532.

[63] K. Pearson, *The problem of practical eugenics* (Eugenics Laboratory lecture series, V: 1909, London), 22.

[64] K. Pearson, 'Prefatory essay: the function of science in the modern state', *Encyclopaedia Britannica*, 10th edition, vol. 32 (vol. 8 of new vols.), vii–xxxvii (p. x).

[65] *Ibid.*

[66] *Ibid.*, xvi.

Evidence such as this can be taken as indicating that a general analysis of professional middle class interests as sustaining eugenics holds in Pearson's case. One then has the problem of accounting for the bitter controversies between Pearson and other leading eugenists. However, it may be that in Pearson's thought professional middle class interests were being more consistently expressed than in that of his eugenic opponents. Thus, two major strands can be seen as running through these disputes. Firstly, he distrusted the Eugenics Education Society and the 'wilder' eugenists such as George Bernard Shaw. Caution, expertise, a 'Fabian' approach, were what he called for instead.[67] He felt that other eugenists were taking dangerous short-cuts; eugenics had to be kept under the control of properly-trained scientific experts, and out of that of 'cranks'. Secondly, several leading eugenists found Pearson too rigorous in his hereditarianism, particularly in his scepticism that parental alcoholism had a direct inherited effect on children and in his criticism of environmental, rather than eugenic, measures against tubercolosis.[68] Here, perhaps, the fine structure of institutions and occupations cut across the overall structure of class interests, as far as Pearson's opponents were concerned. They were hereditarians in general, but wished to maintain particular exceptions to eugenic principles because of particular commitments: to the temperance movement, in the case of the controversy over alcoholism, and to environmental health programmes and sanatorium treatment in the case of tuberculosis. Pearson, free of these cross-cutting commitments, was able to develop a consistent hereditarianism unaltered by particularistic exceptions. Again, Pearson can thus be seen as 'exceptional', in the sense outlined in section 1.

6. Pearson's statistical biology

The final aspect of Pearson's thought that I wish to discuss is his statistical biology. This is of course the scientific field of Pearson's most important contributions, yet he began work in it only after 1890, when he was already in his mid-thirties. To discuss it fully is far beyond the scope of this paper, but it is perhaps worth rounding off the account of the other aspects of Pearson's thought by showing their connections with the science of his mature years. I shall attempt to do this by tracing Pearson's growing involvement with this field, an involvement that can, I think, be divided roughly into four phases.

The first, preliminary, phase is that up to the beginning of 1891. Given Pearson's mathematical skills, and given his growing interest in eugenics, it was natural that he should turn to the work of Francis Galton. In 1889 he read a paper to the Men's and Women's Club discussing the eugenically-inspired statistical analyses of Galton's latest book, *Natural inheritance*.[69] Pearson found Galton's work substantively convincing: 'The general conclusion one must be forced to by accepting Galton's theories is the imperative importance of humans doing for themselves what they do for cattle, if they wish to raise the mediocrity of their race.' But he had serious methodological doubts: 'Personally I ought to say that there is, in my own opinion, considerable danger in applying the methods of exact science to problems in descriptive science ... the grace and logical accuracy of the mathematical processes are apt to so fascinate the descriptive scientist that he seeks for sociological

[67] K. Pearson, *The life, letters and labours of Francis Galton* (footnote 9), vol. 3A, 260–261.
[68] The controversy over alcoholism is discussed by Farrall (footnote 59), 250–282.
[69] 1889, London.

hypotheses which fit his mathematical reasoning...'.[70] In any case, Pearson's energies were at this time taken up with the preparation of the *Grammar of science*; while he was attracted to Galton's eugenics, he was not yet ready to begin work in a new scientific field.

The second phase began with the appointment in 1891 of W.F.R. Weldon to the Chair of Zoology at University College London. Weldon was also interested in what Galton was doing. Unlike Pearson, it was Galton's statistical method rather than eugenic conclusions that attracted Weldon: he saw in Galton's work a way of making biology, especially evolutionary biology, more rigorous.[71] He needed the help of a professional mathematician, and approached his colleague Pearson. In their collaboration Pearson's methodological doubts about Galton's approach were overcome: he realised that statistical analyses could be seen as exemplifying, rather than contradicting, the positivist and phenomenalist criteria of valid knowledge of the *Grammar*. Using statistics, the biologist could (apparently) measure without theorizing, summarize facts without going beyond them, describe without explaining.[72]

Pearson thus began work on mathematical problems suggested by Weldon's work. His first paper on statistics dealt with the dissection of frequency curves into separate normal components, and applied the method to some of Weldon's data on crab shells. The second discussed the fitting of skew frequency curves to observational data, and developed the well-known method-of-moments or Pearson system of curves; the examples again included the crab measurements, but also a wide range of human, biological and metereological observations.[73]

The work of this second phase might suggest that Pearson was simply interested in applying his mathematical skills to other scientists' problems, irrespective of any intrinsic concern for these problems. This interpretation, however, is shown to be false by his work of the third phase of the transition, which can be roughly dated as 1894 to 1897. Pearson himself wrote of this phase:

> Now, if you are going to take Darwinism as your theory of life and apply it to human problems, you must not only *believe* it to be true, but you must set to, and demonstrate that it actually applies. That task I endeavoured to undertake after the late Lord Salisbury's famous attack on Darwinism at the Oxford meeting of the British Association in 1894. It was not a light task, but it gave for many years the *raison d'être* of my statistical work.[74]

Salisbury had suggested that the process of natural selection could not be demonstrated, but was merely an implausible hypothesis, and he had called for a return to the principle of creative design. The religiously motivated attack on Darwinism from the High Tory peer led to an immediate riposte from Pearson. He attacked Salisbury as a representative of 'reaction' and the 'new bigotry', and claimed that 'the theory of evolution is likely to become a branch of the theory of chance', and that when this happened views like Salisbury's would obtain 'very poor

[70] K. Pearson, 'On the laws of inheritance according to Galton', Pearson Papers, CV D6.

[71] See K. Pearson, 'Walter Frank Raphael Weldon, 1860–1906', *Biometrika*, **5** (1906), 1–52.

[72] This is argued by Norton (footnote 1), especially pp. 16–17.

[73] K. Pearson, 'Contributions to the mathematical theory of evolution', *Philosophical transactions of the Royal Society of London*, **185A** (1894), 71–110; and 'Contributions to the mathematical theory of evolution, II: skew variation in homogeneous material', *ibid.*, **186A** (1896), 343–414.

[74] K. Pearson, *Darwinism, medical progress and eugenics* (Eugenics laboratory lecture series, IX: 1912, London), 11; Pearson's emphasis. Salisbury's address is in the *British Association Report*, (1894), 3–15.

comfort' as a 'quantitative measure of the rate of natural selection' was found.[75]

Pearson's mathematicization of Darwinism can be seen, then, in part as an attempt to defend the theory of natural selection from its reactionary opponents. He sought to develop an evolutionary science that was philosophically impeccable, according to his own phenomenalism and positivism. This he did not do simply for its own sake, but in order to legitimate its application to the human species, its use as social Darwinism. For Pearson, the theory of evolution '... is not merely a passive intellectual view of nature; it applies to man in his communities as it applies to all forms of life. It teaches us the art of living, of building up stable and dominant nations...'[76] Such a theory had to be presentable as based on hard, solid, preferably quantitative fact, in order to obtain maximum plausibility and to combat men like Salisbury; hence the necessity to develop it in a statistical form, free from speculative, theoretical elements.

Pearson's third 'Mathematical contribution to the theory of evolution', completed in 1895, serves as an illustration of the nature of his statistical biology and its relation to the rest of his thought.[77] In this important paper he put forward the now standard product-moment expression for the coefficient of correlation and developed a large part of the theory of multiple correlation and regression. These contributions to statistical theory were prompted by his desire to manipulate and show the interrelations of various concepts from evolutionary biology to which he had given operational, statistical definitions. However, the paper was not simply an abstract piece of mathematical biology. In a real sense it was about human beings in society. The definitions were indeed general, but it is clear that man was the organism to which they were primarily intended to apply. All Pearson's major concrete examples referred to humans, and his introduction to the paper hinted strongly at possible eugenic applications.

Further, in writing this paper Pearson had a particular political purpose. He wished to refute the theory that, should natural selection be suspended and random mating take place, a species would revert to an original 'species type'. This notion, referred to by Pearson as the doctrine of 'panmixia', had been used by Benjamin Kidd in his widely-read *Social evolution* to prove the impossibility of the long-term success of a socialist society.[78] With the struggle for survival suspended, degeneration would automatically follow. Pearson had responded to Kidd with an immediate defence of socialism in the *Fortnightly review* of July 1894,[79] and his later mathematical paper provided more precise substantiation of his argument. The efficacy of selection was greater and more permanent than the theory of panmixia allowed, he argued. The suggestion that regression took place to a fixed racial mean was almost certainly mistaken, he suggested; instead, the focus of regression shifted with selection. Adopting this view, it could be shown mathematically that as little as

[75] *Chances*, vol. 1, 140–172.

[76] K. Pearson, *The grammar of science* (second ed.: 1900, London), 468.

[77] K. Pearson, 'Mathematical contributions to the theory of evolution, III: regression, heredity and panmixia', *Philosophical transactions of the Royal Society of London*, **187A** (1898), 253–318.

[78] B. Kidd, *Social evolution* (1894, London).

[79] Reprinted in *Chances*, vol. 1, 103–39.

five generations of selection could lead to the establishment of a stable new breed.[80]

Thus, it can be clearly seen that Pearson was not simply providing a mathematical apparatus for others to use. To make his point, he was quite happy to modify an essential substantive part of the theory of regression developed by Galton. And his point was essentially a political one: the viability, and indeed superiority to capitalism, of a socialist state with eugenically-planned reproduction. The quantitative statistical form of his argument provided him with convincing rhetorical resources, which he employed mercilessly against Kidd.

By the end of this third phase, Pearson's transition to work on statistical biology was essentially complete. From 1897 onwards, a fourth phase of consolidation was entered into: a period of gradually building a 'research institute', of initiating major projects on his own account rather than using others' data, of work on the numerous particular statistical and other problems thrown up by his research programme. This phase naturally involved him in work less obviously and directly connected to his central political, philosophical and eugenic concerns, and he collaborated with many people who did not share these concerns. Nevertheless, it can still be argued that his work of this mature period, and that of his 'research institute', continued to reflect these concerns. However, this argument cannot be taken up here.[81]

7. Conclusion

The relationship between the starting-point of this paper, the structural situation of the professional middle class, and its end, the nature of Pearson's statistical biology, involves a chain of intermediate steps. The two crucial steps are, firstly, the claim that Pearson's thought was 'exceptional', that it expressed a professional middle class ideology in particularly clear and consistent form; and, secondly, the claim that Pearson's social, political and philosophical beliefs conditioned his science in important ways. The first point is inevitably the more tentative, as it involves a move far beyond the kind of documentary evidence that can be used to justify the second. It is therefore perhaps apt to end this paper with a discussion of the first claim.

Pearson's overall intellectual position was admittedly unique. Particular aspects of it—Fabianism, social Darwinism, eugenics, positivism, and so on—were of course shared in varying degrees by late Victorian professionals. But the overall mix of elements is not, to my knowledge, to be found exactly replicated in any other individual. The crucial point made here—which distinguishes the approach to the sociology of knowledge associated with Lukács and Goldmann from any empiricist, statistical approach—is that this uniqueness in no way invalidates the analysis of Pearson's system of belief as one appropriate to the professional middle class of late Victorian Britain. This analysis is, of course, theoretical in its nature. It cannot be demonstrated that Pearson consciously and deliberately set out to create a professional middle class ideology. Although some of his early writings show him in search of an appropriate belief system, the role of class interests in shaping this can only be presumed, and it is certainly not to be expected that he would necessarily be conscious of them. If the analysis of Pearson's beliefs and of the structural position and interests of the professional middle class presented here is accepted, then we have an instance of the 'match' of ideas and social position. Explaining why this

[80] K. Pearson (footnote 77), 317.

[81] I have attempted to do so in 'Statistical theory and social interests: a case-study', *Social studies of science*, **8** (1978), 35–83.

'match' came about exactly when it did, and why the particular individual Karl Pearson should have manifested it is, however, beyond the present capacity of the sociology of knowledge. In the last analysis, it is not necessarily a sociological problem.

This does not mean that all we can do is to point to this one instance of a 'match'. It is possible to look at the relationship between the historical fate of a system of belief and that of the class to which it is claimed to be appropriate. Ideologies are of course context-bound, and there is no reason to expect a permanent attachment of particular ideas to particular classes in changing cultural and historical circumstances. Nevertheless, at least some regularities can surely be expected. Take Fabianism, for example. Since 1914 the professional middle class, and state bureaucracy and social intervention, have grown rapidly. Fabianism has changed from a minority belief to a dominant ideology. It is no longer radical to talk of experts, scientific administration and politics, or selection on merit, nor to demand an expansion in the role of the state. Similarly with eugenics. While negative eugenics as a programme of social control proved context-bound, many of the eugenists' psychological ideas became widely accepted. The relatively recent reaction against them within sectors of the professional middle class, itself an interesting problem for the sociology of knowledge, should not blind us to the ideological success of hereditarian theories of mental ability. A reaction has also set in against scientific positivism of the Pearsonian kind, but the claims for science found in the *Grammar of science* would not be wholly unacceptable to many contemporary scientists. The particular form of Pearson's reaction against individualistic social Darwinism is outdated, but the notions of collectivism, and of the development of internal cohesion against external threat, have enjoyed considerable twentieth century success.

It would, therefore, not be correct to dismiss Pearson's ideas as simply those of an idiosyncratic individual. It is too easy to focus on aspects that were discarded and now seem outlandish, and to forget those that became the common-place beliefs of the professional middle class of at least the recent past. On the whole, the ideas embraced by Pearson were ideas growing, rather than declining, in their historical importance. This growth can surely be attributed to the growth of the professional middle class and its social role: Fabianism, the 'IQ cult', positivism in a general sense, and so on, grew as professional administrators, teachers and psychologists, social and natural scientists became more important. On the other hand, Pearson as an individual, while at least moderately famous as a general intellectual in the Edwardian period, never enjoyed a cult status amongst the professional middle class. In full accord with his own views on the correct strategy for the scientific intellectual, Pearson eschewed opportunism. He never made the compromises that would have been necessary to become leader of a social movement such as Fabianism or eugenics. That does not mean, however, that the ideas he put forward should be seen as unsuccessful ideas.

The analysis of Pearson presented here does differ in its nature from that by Goldmann of Pascal and Racine, in which Goldmann's sociology of knowledge is best developed.[82] Goldmann's argument rests, ultimately, on a claimed structural homology between Jansenism, as expressed by Pascal and Racine, and the social situation of the class, the *noblesse de robe*, to which Jansenism is imputed. The

[82] Goldmann (footnote 3).

analysis of Pearson does not depend on structural parallels, but rather on notions of class interest. Further, Goldmann makes much of the aesthetic coherence of the ideas of his principal subjects. The coherence found in Pearson's work is not of this nature: it refers instead to what I claim to be the relative freedom of Pearson's thought from the 'noise' generated by particularistic interests. These two reservations aside, I would hope that this paper has shown that the type of analysis pioneered by Goldmann can be of use in understanding aspects of the relationship between individual thinkers and social classes. A sociological approach need not be resticted to relatively large-scale movements but can also be used to analyze the work of unique individuals such as Karl Pearson.