<<188>>

9 Pandora's bequest

In this book we have approached the social world of science as a multiple reality.[1] We have abandoned the traditional sociological goal of producing a single, coherent account of the patterns of action and belief in science. We have sought instead to document some of the methods by means of which scientists construct and reconstruct their actions and beliefs in diverse ways.

At first sight, it may have appeared that, like Pandora, we were heading for chaos. But, as in Pandora's box, Hope still remained; in our case, hope of creating order out of diversity. Although we emphasised that the multiplicity of voices with which scientists and other social actors speak makes traditional sociological objectives unattainable, we held fast to the assumption that interpretative regularities could be discerned behind the babble of tongues, if a suitable analytical approach could be devised. In this book, we have tried to take a few, short steps towards developing such an approach and towards demonstrating what it can tell us about science.

We claim to have shown that scientists use distinctive interpretative forms as they construe their actions and beliefs in different social contexts. We have made an attempt to capture various significant facets of these interpretative forms by devising the concepts of empiricist and contingent repertoires. These concepts have proved to be useful, not only in describing certain recurrent features of scientists' formal and informal discourse, but also in understanding interpretative phenomena which have no obvious connection with our initial observations on versions of action in research papers and interviews. Thus we showed that the two repertoires were used by participants as resources for constructing asymmetrical accounts of error and correct belief. In addition, it became clear that the interpenetration of the two repertoires in interview talk sometimes generated interpretative problems which were resolved by the introduction of the 'truth will out device'. In the first half of the book, therefore, our analysis proved to be fruitful in revealing two basic registers through which scientists are able to create interpretative diversity, in showing how these registers provide the means for constructing major interpretative contexts in science, and in identifying some of the main

<<189>>

principles involved in scientists' accounting practices. We were able to show clearly that, although participants' substantive accounts of action and belief are highly diverse, they are constructed out of recurrent interpretative forms and repertoires which can be identified, described and documented by the analyst.

Once we had established these basic conclusions, we moved on to more complex and novel topics. We showed that discourse analysis is not restricted to the realm of small-scale social phenomena. We focused on the supposedly collective phenomenon of cognitive consensus. We argued that it is analytically misleading to treat consensus as a potentially measurable attribute of social collectivities. Sociological analysis along these lines merely serves to reify particular, contextually produced interpretations generated by participants. Examination of participants' interpretative work showed unequivocally that a given collectivity at a given moment can be made to exhibit radically different 'degrees of consensus'. We suggested, therefore, that

analytical attention should be directed towards the contextually related methods through which participants construed collective belief as consensual or otherwise. This approach to the study of consensus produced several preliminary findings which could provide the basis for a significantly new interpretative analysis of 'collective belief' in science and of collective phenomena more generally. Although such an approach has not previously been applied to collective phenomena in science we have, of course, been building upon a growing body of interpretative analysis of social aggregates in other areas of social life.[2]

Our next step was to extend the analysis to include types of data which had remained outside the scope of more customary sociological approaches. We did this, in the first instance, by showing that pictorial discourse was open to broadly the same kind of analysis as that which had already been applied to texts and interview transcripts. In particular, it was evident that pictorial versions of scientific knowledge-claims varied in regular ways as they moved between interpretative contexts. Thus, not only does discourse analysis open up for empirical investigation topic areas which had previously been closed, but it shows that such topics can unexpectedly shed new light on longstanding sociological issues. For our analysis showed that examination of scientists' pictures provided an elegant and effective way of dealing with a central problem in the sociology of knowledge; namely, that of clearly demonstrating the contextual variability of scientists' technical representations of the physical world.[3]

This pictorial analysis was linked to our earlier observations on verbal discourse through an examination of scientists' own interpretations of pictures. We found that their interpretations drew on realist and

fictionalist conceptions of pictorial representation which closely paralleled the empiricist and contingent repertoires they used to portray action and belief. Their discourse about pictures, however, was overwhelmingly fictionalist in character. The one major exception to this in our data was in their talk about pictures which they said were intended for students and for popular consumption. These pictures, they stressed, had to be constructed in more realistic terms; and our examination of such pictures showed that they frequently were different from the pictures circulated among specialists and that they often included more 'realistic' visual components drawn from the realm of everyday representations of ordinary objects. It also became clear that scientists' use of and movement between fictionalist and realist repertoires in talking about pictures frequently created interpretative problems which were similar to those which appeared in transitions between empiricist and contingent discourse about action and belief.

The most evident of these interpretative problems, namely, 'Trubshaw's dilemma', arose out of scientists' difficulty in reconciling their fictionalist accounts of pictures with their claim that more realistic pictures were suitable for students. We showed that this interpretative problem was not confined to our respondents' reflective talk about pictures, but that the dilemma reappeared in the visual domain itself. This point was strengthened by looking at a form of visual joke in which components 'not to be taken seriously' are represented humorously by means of pictorial resources taken from a quite different area of discourse. Visual jokes of this kind could be seen to resolve Trubshaw's dilemma by being organised to provide a clear guide to the 'degree of realism' to be attributed to the components of the knowledge-claim in question.

The oxidative phosphorylation cartoon led us to take scientists' jokes seriously. We have treated

them as a form of discourse in which participants' potential interpretative diversity is clearly revealed. We have employed them, therefore, as a check upon our prior conclusions and, by selecting jokes which have wide currency within the scientific community, we have used them to show that some at least of our findings are relevant to naturally occurring discourse among scientists in general.

We also stressed that the peculiar analytical usefulness of humour is not restricted to science; and we illustrated this with a brief digression to consider MacIntyre's analysis and the pregnancy joke. But it is not just our use of humour which is of general sociological significance. For our basic argument presented in chapter one, that traditional forms of sociological analysis of action are derived in an unexplicated fashion from participants' discourse and that discourse analysis is a necessary prelude to, and perhaps replacement for, the analysis of action and belief, is a completely

general argument which applies equally to all areas of sociological inquiry. We hope, therefore, that this book will be read, not simply as an attempt to give further momentum to a new approach under way within the sociology of science, but as a contribution to a wider analytical movement in sociology and in other disciplines concerned with the production and reproduction of social life through discourse.[4]