

REDUCTION,  
EXPLANATION, AND  
REALISM

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this tension which is immediately relevant; what is essential to note is that it partly arises because the attribution of content is bound by the effects (actions) it produces. We are always prepared to revise our idea of the explanatory mental content if it does not result in the expected action. This produces a result analogous to a selection process. The selection process arranges causes so that they will produce the right effects; in the psychological case the cause (intentional content) is 'selected' by the effect it produces in the stronger sense of being (non-causally) determined by the effect.<sup>29</sup>

This analogy between the two kinds of selection is in keeping with our previous strictures on the possibility of an autonomous special science. Both types of selection ensure that causal harmony prevails. The second type of selection, however, has another aspect to it which causes further problems for the project of a scientific psychology, and that is that there is a strong tendency to view the selection as being 'only' epistemological. In the biological case the selection process is part of nature, and so there is no barrier to viewing the resultant functional properties realistically. In the psychological case the determination of content seems dependent upon us, answerable as it is to our own canons of rationality. As a consequence there is a far greater pull to viewing psychological explanation instrumentally, as being a convenient fiction replaceable when the causal story is available. In psychology it is eliminativism, not reduction, which is the threat.

<sup>29</sup> Although I have consistently talked in the singular about 'the effect' it will always be the case that there will be more than the single action to take into account in ascribing intentional content. The non-contingent link between action(s) and content(s) is not removed by this recognition of holism.

## 4

## Structural Explanation in Social Theory\*

*Frank Jackson and Philip Pettit*

Social theory pursues the relatively abstract explanation of social facts. Thus it is distinguished on two fronts: by its subject-matter, social facts, and by its method of explanation, one that is relatively abstract.

Social facts are easier to illustrate than define. They include facts, if they are facts, like the following: that the rich enjoy higher social status than the poor; that there has been a worldwide fall in the number of smokers; that the Soviet Union has withdrawn its troops from Afghanistan; that the crime-rate in Australia is lower than in the US; that every successful entrepreneur maximizes expected net revenue; and that the birth-rate in Western countries has fallen this century.

All such facts seem to have at least this in common, that they obtain or largely obtain in virtue of the intentional attitudes—the beliefs, desires, and the like—of a number of people, and/or the effects of such attitudes: the actions which the attitudes occasion and the consequences of those actions. The rich enjoying higher status than the poor is a matter of the attitudes that people take to rich and poor; the fall in the number of smokers is a matter of the actions of individuals in the past and the present. In such cases the social fact obtains in virtue of the attitudes and actions of the individuals and perhaps the contexts in which they occur. Rather than look for

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any more specific *differentia*, we shall assume that social facts can be identified as facts of such an intentionally supervenient character.<sup>1</sup> Given that definition, many social facts will be of no interest whatsoever; but some certainly will.

If a social fact obtains in virtue of a certain distribution of attitudes or actions, perhaps in a certain context, then the factors which would be invoked in our folk psychology as the sources of those attitudes and actions are also at the causal origin of the social fact. We might conceivably look to the detailed psychological antecedents of such facts in attempting to explain them. But if we are to do social theory then the explanation we seek must be relatively more abstract than this. It must prescind in some degree from that level of detail.<sup>2</sup> Or so at least we shall assume.

Understood in this way, social theory divides into two broad kinds, microtheory and macrotheory. Microtheory seeks to explain social facts by reference to psychological antecedents, macrotheory by reference to antecedents of other kinds: though those other antecedents are varied, we shall always describe the explanation provided as structural explanation. Suppose that a social fact obtains as a result of certain people, John, Mary . . . having certain attitudes and performing certain actions. If we can abstract from the identity of the individuals involved and explain the social fact simply by *some* people's displaying those attitudes and actions, then we have one sort of micro-explanation for the fact. But perhaps the best-known kind of social micro-explanation is that associated with the economic or rational-choice approach. This would have us abstract not just from the identity of the individuals involved, but also from the precise content of their motivations; it would have us argue that behaviour sufficient to generate the fact under explanation was probable or inevitable anyway, being in some sense rationally required. Both in this case and in the

<sup>1</sup> For an account of social properties which motivates this condition see P. Pettit, 'Social Holism without Collectivism', in E. Margalit (ed.), *The Israel Colloquium: Studies in the History, Philosophy and Sociology of Science*, v (Dordrecht: Reidel, forthcoming). For a rather different account of social properties see D.-H. Ruben, *The Metaphysics of the Social World* (London: Routledge & Kegan Paul, 1985), ch. 3.

<sup>2</sup> See R. Miller, 'Methodological Individualism and Social Explanation', *Philosophy of Science*, 45 (1978).

previous one we explain a social fact by its psychological origins, while doing so in the relatively abstract way distinctive of social theory.

Our prime concern in this paper is social macrotheory or structural explanation. This is a sort of explanation found in economics but it is associated particularly with other social sciences like anthropology, sociology, and political science. We shall assume, to start with, that structural explanation is often an interesting exercise. The question which we wish to raise is how such explanation can be useful. Social facts, by our definition, largely obtain in virtue of what happens at the psychological level. So how can they be usefully explained in abstraction from that level? Unless we can provide an answer to this question, we must cast doubt on the role of structural explanation in social theory.

In raising this question about structural or macro-explanation, we are going along with the common assumption that there is no comparable problem about micro-explanation. Towards the end of our discussion, however, we shall see that this is not so: that, surprisingly, micro-explanation raises a similar problem. At the point where we recognize the problem, however, we will already have a solution to hand: that which we derive for the macro-explanation case.<sup>3</sup>

The paper is in five sections. In the first section we try to articulate in greater detail the problem with which we are concerned. In the following three sections we deal with three different models of how structural explanation is possible; we dub these respectively the subversive, the pre-emptive, and the program models. We reject the subversive and pre-emptive models and endorse the program one. Finally, in the fifth section, we consider the significance of our resolution of the problem for issues in social ontology. We argue that the suggestion of collectivism involved in endorsing the program model ought not to worry an individualist.

<sup>3</sup> Notice the parallel with the position described in F. Jackson and P. Pettit, 'Functionalism and Broad Content', *Mind*, 97 (1988). There we try to solve a problem about broad functional explanation in psychology, as distinct, apparently, from narrow; but having found the solution—of a kind with that proposed here—we show that it is also needed to solve a problem raised by narrow functional explanation.

## 1. THE PROBLEM

In order to appreciate the problem raised by structural explanation, it is necessary to consider the sorts of case where such explanation is deployed. We will look at four. We will offer examples to illustrate each of these categories but it is important to note that we do not necessarily endorse any particular example as a good explanation.

Explanations which belong to the first of the four categories invoke aggregate-level correlates of the events explained. The following examples, however sketchy and impoverished, illustrate the category:

1. The increase in unemployment explains the rise in the level of crime.
2. Increased urbanization explains the decline in religious practice.
3. The advent of literacy explains the shift to a more secular society.<sup>4</sup>
4. The restructuring of manufacturing industry explains the decline of trade union power.

We describe such accounts as correlate explanations because in all of them an aggregate-level change is represented as correlated in an explanatory fashion with the social fact to be explained. Correlate explanations cover a variety of forms, ranging from those that invoke social statistics on inflation, divorce, mobility, and the like to explanations which call on less precisely defined antecedents like industrialization, urbanization, and literacy.

The second type of structural explanation has been the stock-in-trade of much anthropology and sociology this century. It is the kind of explanation associated with the functionalist paradigm, which invokes the beneficial effects of a certain type of fact to explain why that fact obtains or continues to obtain. We are familiar with the biological account which explains why the human heart beats by reference to the beneficial effect of that beating in circulating blood through the body. The idea

<sup>4</sup> See J. Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1977).

here is that more or less exact analogues are available in the social world.

Function explanations are illustrated by the following accounts:

1. The fact that it produces a change in the feelings of the parties involved towards one another explains the nature and persistence of the peace-making ceremony.<sup>5</sup>
2. The fact that it is necessary for the survival of the local society explains why there is social stratification: that is, the unequal distribution of rewards.<sup>6</sup>
3. The fact that it is optimal for further development of productive power explains why the capitalist economic structure persists.<sup>7</sup>
4. The fact that at a given cost it maximizes the distances between phonemes explains the configuration of the vowel space.<sup>8</sup>

But explanations which invoke benefits are not restricted in social macrotheory to explanations of a functionalist character. It is common in macrotheory, as indeed in common sense—our folk sociology—to treat groups and organizations as agents and to explain certain happenings—the actions of the aggregate entity—by the fact that they promote interests imputed to the aggregate. Thus the following also count as structural explanations:

1. The fact that it was in their class interest explains why the bourgeoisie tolerated the introduction of universal suffrage.
2. The fact that it is in the country's interest explains why Great Britain has stayed in Nato.
3. The fact that doing so maximized expected returns explains why the company reduced its labour force.

<sup>5</sup> See A. R. Radcliffe-Brown, *The Andaman Islanders* (Glencoe, Ill.: Free Press, 1948), 238–9.

<sup>6</sup> See K. Davis and W. E. Moore, 'Some Principles of Stratification', *American Sociological Review*, 10 (1945).

<sup>7</sup> See G. A. Cohen, *Karl Marx's Theory of History* (Oxford: Oxford University Press, 1979), 175.

<sup>8</sup> See P. Van Parijs, *Evolutionary Explanation in the Social Sciences* (London: Tavistock, 1981), ch. 4.

Someone may feel that these examples are not truly structural explanations, since they seem to point us indirectly to psychological antecedents of the results explained. But we would urge that they do not refer us to such antecedents. For all that any of the explanations say, the individuals involved could have been in a variety of psychological states. Thus if we account for a group's doing something on the grounds that it is in their group interest, we do not imply that the members involved in the group action saw it explicitly that way. It may be that they acted according to a received formula and that the point of the explanation is to suggest that were such a formula not suitable for promoting the group interest then it would not prevail. At one level the group acted as it did because of the formula governing the case; at another it acted as it did because that response was indeed in the group interest.

Apart from explanations that invoke correlates, functions, and interests, social macrotheory often offers us examples of what we might describe as context explanations. These explain social facts by reference to cultural context. Some examples should make clear the sort of account that we are envisaging:

1. The contemporary Protestant ethic explains the rise of capitalism in modern Europe.<sup>9</sup>
2. The increasing dependence of the populace on publicly provided welfare explains the crisis of the capitalist state.<sup>10</sup>
3. The ethos of capitalism explains the breakdown of family and community values.
4. The nationalism which appeared in Britain during the Second World War explains much about the character of British films in the 1940s and early 1950s.

With these examples, as with those of explanation by aggregate-level interests, someone may again object that we are directed to psychological antecedents of the conditions explained and that they are not examples of structural explanation. But here we urge, as in the other case, that the factor

<sup>9</sup> See M. Weber, *The Protestant Ethic and the Spirit of Capitalism* (London: Unwin, 1930).

<sup>10</sup> See C. Offe, *Strukturprobleme des kapitalistischen Staates* (Frankfurt: Suhrkamp, 1972).

involved is meant to be explanatory under a variety of possible individual-level processes; its invocation does not point us to any particular psychological explanation. Thus when we are told that the Protestant ethic explains the rise of capitalism, we are not informed about how psychologically it did so. Perhaps the ethic condemned activities inimical to capitalism; perhaps it encouraged the relationships between people which capitalism requires; perhaps it gave people a goal which inspired capitalist activity as a means; perhaps it did all or a number of these things. Many psychological possibilities remain open and so the account on offer, if it is truly explanatory, explains in abstraction from the particular individual-level processes that are at work; it is not just another way of referring us to a micro-explanation of the result explained.<sup>11</sup>

These four varieties of explanation should suffice to illustrate the sort of thing we have in mind when we speak of structural explanation. In each case a social fact which obtains in virtue of people's dispositions and doings is explained other than by reference to psychological antecedents. In each case, therefore, we face the question how the factor invoked, be it a correlate, function, interest, or context, usefully serves to explain that fact.

In order to feel the force of this question, it is necessary to be absolutely clear about one point. This, and we have already laid some stress on it, is that structural explanations are not covert psychological accounts. They do not serve as ways of directing us to psychological antecedents which would furnish a micro-explanation of the social facts on which they bear. The sort of factor introduced in a structural explanation is consistent with a variety of psychological configurations and so its explanatory force does not come of identifying any one of them as the micro-explanans.

Suppose that an apparently structural explanation invokes a non-psychological factor X. It will direct us to a psychological

<sup>11</sup> If someone is unpersuaded that this fourth category is a kind of structural explanation, they need not worry: the main line of argument in the paper should still be of interest. Notice too that even if this fourth category is a sort of micro-explanation, it still raises a problem, as we shall see later, of much the same kind as we wish to focus on here: see the second last paragraph of the introduction.

antecedent, and not really be a structural explanation, if it is a matter of folk psychology that there is a suitably explanatory psychological antecedent associated with *X*. What is or is not a matter of folk psychology is going to be controversial sometimes and so there will be borderline cases where to some eyes an explanation belongs with macrotheory, to others with microtheory. We take a fairly austere view of the compass of folk psychology, identifying it with the thesis that human beings exhibit intentional states like beliefs and desires, that these states are more or less sensitive to the rational pressures of evidence and the like, and that they are responsible for people's actions, causing agents to do things that seem rational in the light of what they believe and desire.<sup>12</sup> Thus we are disposed to regard many borderline cases as macro- rather than micro-explanations. But even to our eyes there are many apparently structural explanations that are really psychological in character.

One is where the factor invoked, say *X*, represents an indirect way of identifying a particular psychological configuration. Suppose we are told that the image of an isolated Ireland explains why the Irish electorate voted massively for entry to the EEC. It ought to be clear that this account, on the face of it a macrostory, is actually a micro-explanation. The factor invoked, once it is spelled out, is just a psychological explanans: the fact that the Irish electorate generally saw the alternative to EEC entry as isolation.

A second way in which an apparently structural explanation may actually be a micro-account is less obvious. It is found where the explanation effectively invokes not the factor *X* that is explicitly mentioned, but the fact that certain people are aware of *X*. Imagine we are told that the volatility of the stock market explains why so many are investing in housing. On the most natural reading, this is not really a macro-explanation, for the factor invoked in explanation is not so much the volatility of the market as people's awareness of the volatility, and that is a psychological antecedent; it is not the stuff of which structural explanation is made.

<sup>12</sup> See our paper 'In Defence of Folk Psychology', *Philosophical Studies*, 57 (1990).

A third way in which a seeming structural explanation may be a micro-account is closely related to the second. It appears where the explanation effectively invokes, if not the fact that people are aware of the factor *X* that is explicitly mentioned, then the fact that they are aware of something that *X* is presumed to bring about. Suppose we are told that a certain central bank adjustment, which is understood between explainer and explainee to have caused rapid inflation, explains the unpopularity of the government. Clearly such a story may simply be a way of providing a micro-explanation of government unpopularity by reference to people's awareness of the inflation. The case is very similar to the one just considered.

The question which we face then is how a social fact that obtains in virtue of certain psychological antecedents can be usefully explained by something distinct from such antecedents. In the three sections following we consider different answers to that question. The first two answers are the responses which appear most articulately in the literature. The third is that which we ourselves endorse.

Before leaving this section it will be useful to see our problem in a more abstract way. Let factors of any kind *k* be said to be causal in the production of an event *e* if and only if they satisfy some loose, colloquial condition like the following: if an agent were in a position to manipulate those factors, then we can conceive of his doing so out of a desire to bring about *e*; the *k*-factors are instrumentally effective—they are potential controls—relative to *e*. If causality is defined in this loose but common way, then there is room for distinctions between factors of less or more basic causal kinds. The *k*-factors will be of a less basic causal kind than certain *j*-factors—for short, they will be less basic causes<sup>13</sup>—if and only if their causal relation to *e* is realized by a causal relation between the *j*-factors and *e*. Equally they will be more basic causes than any factors whose causal relation to *e* they in turn realize.

<sup>13</sup> This way of speaking will certainly not be misleading *if*, as in the social theory cases to be discussed, the *k*-factors are not contingently identical with the *j*-factors. Otherwise it may be, as there will be extra complexities to take into account. See our 'Program Explanation: A General Perspective', *Analysis*, 50(2) (1990), and C. Macdonald and G. Macdonald, 'Mental Causes and Explanation of Action', *Philosophical Quarterly*, 36 (1986).

It should be clear how this abstract picture fits the structural explanation case. For any social fact explained, the psychological antecedents certainly count as causal factors in its appearance. The structural antecedents may or may not always be thought of as causes but, since this will make our problem harder rather than easier, we will see them in that way: thus urbanization causes religious decline, the fact that stratification is functional causes it to persist, and so on. The point to stress, however, is that even if the structural factors are seen as causal, still it appears that they are less basic causes than the psychological antecedents. Their causal linkage to any fact they explain is apparently realized by the causal connection between the operative psychological antecedents and that fact. If urbanization causes religious decline, it does so through people's experience of city life leading them to form such attitudes as keep them from church. If the fact that stratification is functional causes it to persist, it does so through people having such attitudes in a stratified society as cause them to behave in a way that sustains the stratification. And so on.

Wherever the abstract pattern we have identified is to be found, there is a potential problem of the kind that we have raised for structural explanation. Suppose that there are at least two kinds of causal factor, *j* and *k*, which are relevant to certain events, and that *j* is a causally more basic kind than *k*. Suppose further, as is certainly true in the social theory cases, that the *k*-explanations are not useful pointers to causally more basic factors like the *j*-items; at more basic levels, the *k*-connections are realizable in any of an open variety of ways, so that the fact that a *k*-connection obtains tells us little or nothing about what factors are in play at a more basic level. Suppose finally, as in the social theory cases, that *j*-explanations and *k*-explanations both seem to represent interesting ways of accounting for the events in question. The problem is how the two sorts of explanation relate to one another, in particular how they relate to one another so as to remain independently interesting. If an event *a* causally influences an event *b* which causally influences something *e*, or if *a* and *b* combine to influence *e* causally, then we see no difficulty in how an *a*-explanation and a *b*-explanation of *e* can both be interesting. The problem on hand

is how they can both be interesting if a third condition is realized: if they relate as more and less basic causal factors.

In any comparison of levels, it is natural to assume that the causally more basic kind of factor certainly does provide an interesting explanation, and we shall go along with that assumption. Thus our problem becomes that of showing how a higher-level explanation can be as interesting as a lower-level account of something: how the *k*-explanation of an event can be as interesting as the *j*-account. This problem will be particularly acute in cases where we are in a position, at least in principle, to develop *j*-explanations as well as *k*-explanations. The issue will be why we should maintain any interest in the *k*-explanations, rather than giving them up in favour of pursuing *j*-accounts.<sup>14</sup>

The social theory case raises the problem in its acute form, since we are in principle able to develop individual-level psychological explanations of social facts as well as aggregate-level structural accounts. Henceforth, therefore, we shall concentrate on the acute problem. The problem in its acute form is not restricted, however, to the social case. Given the growing potential of neurophysiology to describe the antecedents of any action, a similar problem arises of how even psychological explanations can retain an autonomous interest. After all, the connection between certain beliefs and desires and any action they explain is clearly realized neurophysiologically and, by all contemporary accounts, it is multiply realizable at the neurophysiological level. Thus it is not clear how belief–desire explanation can retain autonomous interest. But we shall not concern ourselves with that or any other non-social instance of the problem.<sup>15</sup> Our concern here is purely with the problem of structural explanation in social theory.

<sup>14</sup> The problem, particularly in its non-acute form, is discussed more fully in our 'Program Explanation: A General Perspective'.

<sup>15</sup> We deal with the psychological problem, among other issues, in Jackson and Pettit, 'Functionalism and Broad Content'. In that paper the sort of problem at issue is presented somewhat differently. See also our 'Program Explanation: A General Perspective'.

## 2. THE SUBVERSIVE MODEL

Faced with the problem presented by structural explanation, there are only three salient responses:

1. deny that structural explanation is interesting;
2. deny that structural causes are less basic;
3. deny that less basic causes make for less interesting explanation.

All three responses are to be found in the literature. The first response, associated with rank individualism—the sort described later as heuristic individualism—will say that any structural explanations that look interesting must turn out to be covertly psychological accounts; we shall not discuss it further here.<sup>16</sup> The other two responses dominate the literature. The second is associated with the subversive model described in this section, the third with the pre-emptive model described in the next and indeed with the program model which we ourselves endorse.

If we deny that structural causes are less basic, then we reject the claim that the abstract pattern identified in the last section applies to the social case. We deny that the causal linkage of every structural cause to the event it explains is realized by a linkage between the psychological antecedents and that event. We may then have any of the following pictures in mind of how macro-events relate to micro and serve to provide an explanation of the fact to be explained:

1. The macro- and the micro-causes are both parts of the total causal explanation but each explains on its own, on the assumption that the other occurs. An analogy: the striking of the match explains the fire, assuming the wood is dry; the wood's being dry explains the fire, assuming the match is struck.
2. The macrocause overdetermines the micro, so that if the micro had not occurred, it would have caused, and causally explained, the fact to be explained. An analogy:

<sup>16</sup> For an honest if unnuanced statement, see M. N. Rothbeard, *Individualism and the Philosophy of the Social Sciences* (San Francisco, Calif.: Cato Institute, 1979).

my poisoning the dog overdetermines its death, if the dog was shot before the poison took effect.

3. The macrofactor itself causes the realization of the micro and offers us an explanation by reference to a non-immediate cause. An analogy: if the slate falling from the roof causes the pedestrian to jump and the pedestrian jumping causes a car accident, then the falling of the slate can explain the accident.

Of these possibilities, however, only the third is really open. Neither of the first two is remotely plausible. The first fails because the micro-antecedents of a social fact are sufficient on their own to ensure that it obtains. The second fails because there is no possible causal route from the macrofactor to the social fact other than one which goes via the psychological antecedents. In any case the second possibility would not allow us to say that the macrofactor is explanatory. My poisoning the dog does not actually explain its death, if in fact it merely overdetermines it.

Thus, if we deny that structural causes are less basic, we must mean to assert the third possibility. We must mean to say that the macrofactor invoked in the structural explanation is itself a cause of the microfactor at work. That would be no problem, of course, if the macrofactor was said to cause the required psychological antecedents in the ordinary manner countenanced in folk psychology: that is, in the way in which the volatility of the stock market causes people to be aware of that volatility. But this route has already been ruled out: in distinguishing structural explanations from covert micro-accounts, we are supposing that the macrofactors invoked do not have that sort of psychologically familiar impact on people.

The only recourse for those approaching our problem on this tack is to brave the storm. They must say that, contrary to our own intuitive sense of these things, contrary to our folk psychology, structural explanations explain through pointing to factors which produce the psychological antecedents in virtue of which the fact explained obtains. They must say that, by whatever instrumentality, a relatively abstract feature like increased urbanization, the social benefit of stratification, the class benefit of tolerance, or the ethos of capitalism must be



capable of eliciting in individuals the psychological profile which guarantees that the social explanandum obtains.

We believe that faced with this prospect most social theorists will try to cast interesting structural explanations as micro ones after all, or will want to explore one of our later models. There are two obvious objections to adopting this one and we think that they ought to be found persuasive, at least given the alternative model that we propose later. The first objection is that it is far from clear how most of the factors invoked in structural explanations are supposed to affect individual human beings, in particular to affect them other than by coming into their consciousness and constituting covertly micro-explanations. How is a high rate of urbanization meant, in itself, to transform the minds of people? After all, urbanization is an abstract statistic, not the sort of thing we expect to produce psychological effects other than by becoming an object of consciousness. How can the alleged fact, again something abstract, that stratification is socially beneficial cause people to transform psychologically so that they become disposed to group themselves in social strata? Again, how can something abstract like the Protestant ethic directly produce the psychological profiles of would-be capitalists?

The second objection is that, not only do most of the macro-factors invoked in structural explanation look unlikely candidates for having the alleged effects, it would undermine our folk psychology more radically than may at first appear to imagine that they act as influences of the kind required. It is part of the folk-psychological notion of belief that a belief is not formed or held in a manner that is entirely insensitive, at least under suitable exposure, to matters of evidence and consistency.<sup>17</sup> To count as a believer is to count, perhaps within certain limits, as someone who is sensitive in this way. Thus our image of ourselves, and more generally of human beings, as belief-driven agents is going to be put under strain by the view that structural factors have direct and unrecognized causal influences on our psychological make-up. That

<sup>17</sup> For a discussion of this view in the context of the social sciences see G. Macdonald and P. Pettit, *Semantics and Social Science* (London: Routledge & Kegan Paul, 1981).

theory will allege, at the least, that there are unfamiliar limits on our sensitivity to evidence and the like; it will subvert, in whatever measure, the manifest image of the human being as an intentional system.

Though we do not think that such a subversive model is attractive, there is no doubt that certain social scientists have been drawn to it. They have embraced the conclusion that social macrotheory offers us a view of human beings, and in particular of the forces to which they are subject, which is as subversive of everyday psychology as Freud was ever thought to be.

We see suggestions of such a subversive approach in some of Marx and Engels' discussion of false consciousness and ideology, and even in Durkheim's notion of the causal potency of the social fact. But it is probably only in the excesses of recent French structuralism that the theory achieves explicit formulation.<sup>18</sup> Louis Althusser proclaimed the abolition of the subject as the cost to be paid—in his case it appears to have been paid with some enthusiasm—for the insights of Marxist macrotheory, correctly understood. He writes:

The structure of the relations of production determines the *places* and *functions* occupied and adopted by the agents of production, who are never anything more than the occupants of these places, in so far as they are the supports (*Träger*) of these functions. The true 'subjects' (in the sense of constitutive subjects of the process) are therefore not these occupants or functionaries, are not, despite all the appearances, the 'obviousnesses' of the 'given' of naive anthropology, 'concrete individuals', 'real men'—*but the definition and distribution of these places and functions. The true 'subjects' are these definers and distributors: the relations of production* (and political and ideological social relations).<sup>19</sup>

Under this subversive approach the human subject, as we understand him or her in everyday life, becomes in Levi-Strauss's words an 'intolerable spoiled child who for too long has held the philosophical scene and prevented any serious work, drawing exclusive attention to itself'.<sup>20</sup> We think the

<sup>18</sup> See P. Pettit, *The Concept of Structuralism* (Berkeley: University of California Press, 1975).

<sup>19</sup> L. Althusser, *Reading Capital* (London: New Left Books, 1970), 180.

<sup>20</sup> C. Levi-Strauss, *L'Homme nu* (Paris: Plon, 1971), 614–15; the translation is ours.

approach is extremely unattractive: it offers a very shaky foundation for structural explanation.

### 3. THE PRE-EMPTIVE MODEL

The subversive model of structural explanation suggests that macrofactors must directly produce those psychological antecedents in virtue of which the social facts explained obtain. Our second candidate, the pre-emptive model, suggests that the macrofactors must filter for, not actually produce, the psychological antecedents of the facts to be explained.<sup>21</sup> It presents a picture under which the structural factors may be less basic causes and still serve to provide autonomous and interesting explanations.

In order to understand this model, let us envisage that in the past there has been a certain sort of social selection. There will have been a social selection if at some stage in our history groups competed with one another in the struggle for survival, in such a way that the members of each group stood or fell together. We may imagine the selection working to the pattern of Darwinian biology, though it might also be based on genetically underdetermined behaviour; we shall see an example of this later. According to Darwinian biology it is genes that are selected in natural history and they are selected for the effects they have, given the contemporary environment, in the competition for survival. Such selection can work at the individual or social level, depending on whether the competition in question is between individual organisms or groups which such organisms form. Normally the competition envisaged is between individuals. It will be competition between groups if those groups each stood or fell together in the struggle for survival.

Suppose then that at a certain stage of human history there was a competition for survival among societies which differed in this respect: in some, given the genes at work, people were psychologically such that it became a fact that *F*; in others this

<sup>21</sup> See R. Nozick, *Anarchy, State and Utopia* (New York: Basic Books, 1974), 22.

was not the case. Suppose now that the realization of *F* was important in determining survival chances and that only the first sorts of society survived; *F*-societies might be cohesive ones or ones involving clear relations of power. Under these suppositions we might in a particular case claim that though the realization of *F* was of course due to the psychological configuration of the members of the society, still it can also be explained by the fact that *F* is functional for the society.

An example will make the possibility clearer and, happily, we can invoke one drawn from real-life social science; the example involves genetically underdetermined behaviour patterns but it appeals to social selection. Stuart Piddocke has argued that the potlatch system of the southern Kwakiutl, a system involving a ceremony in which individuals from different groups compete to confer valuable goods on one another, is a system which, however it emerged, accounted in the past for the survival of some populations rather than others; it assured the flow of food resources in time of need, since these could be given in return for wealth objects. Thus Piddocke argues that, although continuation of the potlatch is explained in microterms as the result of people's psychological dispositions, it can also be explained in structural terms by the fact that it is or has been functional for the survival of the Kwakiutl. 'The potlatch has adaptive value in allowing the Kwakiutl to preserve their entire population, even when some groups faced extinction through starvation. The potlatch was thus "selected" and retained because it facilitated, and now promotes, survival.'<sup>22</sup>

In such an example the fact that the potlatch is functional does not itself produce the behavioural dispositions in virtue of which the system persists but it does filter for the persistence of that system. It ensures, given the selectional story just told, that we can only expect to find, among the extant Kwakiutl, groups which maintain the potlatch. Any groups whose members were disposed to drop it would simply not have survived. The functional character of the potlatch pre-empts the psy-

<sup>22</sup> J. Turner and A. Maryanski, *Functionalism* (Menlo Park, Calif.: Benjamin-Cummings, 1979), 86. Turner and Maryanski note that Piddocke's empirical assumptions have been questioned, but that need not concern us here.

chology of individuals. It ensures that only a psychology that supports the maintenance of the system can have survived.

The potlatch example points us towards a general model of how structural explanation might be thought to be possible. On this model, a structural factor will be capable of explaining a given social fact so far as it pre-empts the actual psychological antecedents, ensuring for evolutionary reasons that there are only such antecedents around as go with realization of the social fact. This model is what we describe as the pre-emptive model of structural explanation.

The pre-emptive model is not much more attractive than the subversive one. There are at least two reasons why. The first is that, at most, it would vindicate only structural explanations in the functional category; a selectional story will not go through except for the sorts of factor invoked there.<sup>23</sup> The second is that with most function explanations, even those that are intuitively persuasive, a selectional story looks very implausible.

This second point may need elaboration. Note that a selectional story of the kind required in the pre-emptive model must postulate the following:

1. Over a suitable evolutionary period there emerged a number of distinct societies, the members of each of which were bound to fall or stand, disappear or survive together;
2. these differed in certain aggregate features, in virtue of their members differing, whether for genetic or other reasons, in behavioural dispositions and patterns; and
3. over the period in question there must have been a relatively unchanging environment such that a society's performance in the survival stakes would have consistently been favoured or jeopardized by the same sorts of aggregate feature.

<sup>23</sup> It is formally possible to represent the other sorts of structural explanation as explanations in the functional category. Thus we might represent the urbanization story as a function explanation by claiming that the decline of religious practice was explained by the fact that it was functional that urbanization should be attended by such a decline. That sort of claim has no plausibility. On related matters, however, see P. Pettit, 'Broad-Minded Explanation and Psychology', in P. Pettit and J. McDowell (eds.), *Subject, Thought, and Context* (Oxford: Clarendon Press, 1986).

Clearly these are demanding conditions and we have no evidence of their having been fulfilled in any widespread fashion. But even if they were fulfilled, we still could not be sanguine about the claim that the selectional story would vindicate many of our function explanations. Suppose that the question arises whether we can invoke the fact that a certain aggregate feature is functional in a contemporary society to explain its persistence. We can avail ourselves of the selectional story only if the feature involved is also likely to have been functional in the earlier, smaller societies on which selection operated. And that considerably restricts the sorts of feature to which the story can be applied. Thus since stratification in the sense in which we know it is unlikely to have had a suitably exact parallel in a small, primitive society, the selectional story would not serve to legitimize the explanation of stratification by the alleged fact that it is functional in current societies.

For those who think we are being excessively unimpressed by the possibility of selectionally vindicating function explanations, it may be worth mentioning one further complicating factor. This is that we will need to postulate a story of social selection, or take evidence of social selection seriously, only in the following event: that the behavioural dispositions which give rise to the socially functional feature are not themselves individually functional. If the dispositions are individually functional regardless of whether there is social selection—for example, to take the case of something genetically determined, if they maximize the chance of the individual's reproducing his or her genes—then we do not need any explanatory recourse to *social* selection. The persistence of the macrofeature will be explained as a by-product of the persistence of the dispositions which give rise to it, and the latter will be explained by the *individually* functional character of the dispositions. Thus, if it is argued that deference to the prior assumptions about how an interaction will go—in Goffman's phrase, the reluctance to break frame—is individually functional, and if that behavioural pattern gives rise to social hierarchies, that gives us no reason for claiming that such hierarchies persist because they are socially functional.<sup>24</sup>

<sup>24</sup> See S. Milgram, *Obedience to Authority* (London: Tavistock, 1974).

These considerations ought clearly to give us pause about resting the case for the interest of structural explanation, or at least resting it exclusively, on the pre-emptive model. It seems to us that there are probably only two sorts of case where the selectional story is likely to provide a legitimate function explanation. One is with primitive societies, as in Piddocke's account of the potlatch. The other is with commercial entities like firms which have survived the environment of a competitive market over a longish period and have done so in virtue of certain aggregate features: say, by following such decision procedures as mean that expected returns are maximized. If we assume that the decision-makers in such firms are not themselves intentionally focused on expected returns—say, they follow rules of thumb—and that the dispositions which produce the features are more or less faithfully reproduced across generations of the firm so that those rules of thumb become more or less sacred, then we may be able to explain the features by the benefit they confer on the firm.

But despite the limited attraction of the pre-emptive model, it should be clear that, at least in suppressed form, it has enjoyed great popularity in the social sciences. We see it in the background of most functionalist theorizing or at least of functionalist theorizing which seeks not just to analyse the social benefits of certain structures, but to explain the persistence—sometimes even the emergence—of those structures by appeal to the benefits. It is generally acknowledged that when functionalists explain a structure by its benefits, they deny that agents are or need be aware of the benefits it produces.<sup>25</sup> No explicit account is given of the mechanism whereby the functional character of a feature is supposed to explain its persistence.<sup>26</sup> But the account generally envisaged is that of social selection.<sup>27</sup>

<sup>25</sup> See J. Elster, *Explaining Technical Change* (Cambridge: Cambridge University Press, 1983). See also M. Douglas, *How Institutions Think* (New York: University of Syracuse Press, 1986).

<sup>26</sup> See Turner and Maryanski, *Functionalism*, ch. 5.

<sup>27</sup> This is conceded by Phillippe Van Parijs, *Evolutionary Explanation in the Social Sciences*, even though he himself investigates a different account of the mechanism. The account which he offers fits very nicely with the model which we describe in the next section.

#### 4. THE PROGRAM MODEL

Our discussion so far teaches us two important lessons. First that structural explanations, as we understand them, do not invoke causes of what they explain, or at least not causes which are as basic as the psychological antecedents. And secondly that they do not generally invoke filtering factors either. The question then is whether there is any other way in which they can succeed in providing autonomous and interesting explanations. We believe there is and we want to introduce our answer in this section. The answer, in brief, is that structural explanations explain, when they explain, by introducing factors which program for the realization of the conditions explained. The fact that they have the programming feature means that, even if they are not suitably basic causes, still these factors can provide autonomous and interesting explanations. Programming factors include filtering factors but they also include much besides.

The best introduction to the program model may be to consider an analogy from the natural sciences. A closed flask contains water and the temperature of the water—the mean molecular motion—is raised. At a certain point the flask cracks. At that point the salient macroconsideration is that the temperature is boiling-point, the salient microconsideration—to simplify somewhat—is that a certain molecule or group of molecules collides with a molecular bond in the surface of the flask at a sufficient velocity to break it. (We are supposing that the case is one where the container breaks because of the internal pressure, not because of the temperature gradient between the water and the container.) The microfactor is apparently a more basic cause of the flask cracking than the fact that the water is at boiling-point: the causal connection at this level realizes the connection at the other. And yet we usefully invoke the macrofactor to explain the cracking. How is this?

Not, certainly, because an analogue of either of our first two models is relevant. Not because the mean molecular motion—an abstract statistic—causes the culpable group of molecules to strike and so is not really a less basic cause. And not because there has been a selection of substances like water which

favours those in which the attainment of a certain rate of molecular motion is attended by the cracking of containers that are made of the same substance as our flask.

The answer is more straightforward than either analogue suggests. The rise in temperature explains the cracking of the flask simply because it makes it probable (to a point approaching certainty) that there will be a molecular collision of a kind sufficient to produce the cracking. It makes that probable, not because of any productive or selective mechanism, but simply because the rise in temperature means nothing more or less than that the rate of motion of the water molecules will increase, and if the rate of motion increases then it is more than likely that some molecule will have the effect explained.

In a case like this the fact that the temperature reaches boiling-point does not produce the effect explained in the more basic way that the molecular collision does. But the fact that the temperature reaches boiling-point programs for that effect in a manner in which the more basic cause does not. It means that there will almost certainly be this or that or any one of an indefinite number of molecular collisions and, since any such collision would crack the container, it means that the flask will indeed crack. The rise in temperature programs for the cracking in the intuitive sense that it arranges things non-causally so that there will almost certainly be a collision which will produce the breaking; alternatively, we may say that it programs for the occurrence of such a productive event.

The flask example forces us to recognize that relative to causal factors at a certain level causal explanation may assume either of two forms. It may be a process explanation which accounts for an event under a certain description by appealing to a property or properties in virtue of which such factors are causally operative at that level in producing the event. Or it may be a program explanation which appeals to a property or properties in virtue of which something—in our examples, something distinct from any of the factors in question<sup>28</sup>—ensures that there will be a process at that level which is suited

<sup>28</sup> As is clear in Jackson and Pettit, 'Functionalism and Broad Content', what is invoked may be individuated so that it is the same event as the cause. The important point then is that the property highlighted is not causally efficacious in the same way as the property invoked in the process account.

to produce the event. In the flask example, the process explanation of the breaking relative to causal factors at the level of molecular collisions is that which appeals to the momentum of certain water molecules at their point of impact with the surface of the container. The program explanation is that which appeals to the boiling temperature of the water as something ensuring that there will be a process of molecular collision—perhaps this, perhaps that—sufficient to produce the breaking of the flask.<sup>29</sup>

There has recently been a convergence of opinion on the view, in David Lewis's formulation, that to explain an event causally is to give information on its causal history.<sup>30</sup> Our distinction fits nicely with this view. The process explanation relative to any level identifies actual causes and relevant causal properties. The program explanation identifies a condition such that its realization is enough to ensure that there will be causes to produce the event explained: if not the actual causes, then some others. The process explanation provides information on the causal chain at work in the actual world, the program explanation provides information on the causal chains at work in different possible worlds: viz. the information that so long as the condition identified is realized in any world, or at least in any world more or less similar to ours, there is almost bound to be some causal chain in operation there which will produce an event of the appropriate type.

We believe that the program/process distinction is of great importance in the theory of explanation generally. Elsewhere we have argued that it enables us to make good sense of the relation between the neurophysiological explanation of behaviour and its psychological explanation in terms of beliefs and desires. Relative to the level at which we describe the neuro-

<sup>29</sup> Here we give a relativized sense to the phrase 'process explanation', so that a process explanation relative to one level may be a program explanation relative to another; this is convenient, given our concern with an acute form of the problem distinguished in Section 1. Notice, however, that the phrase can also be given an absolute sense, so that only an explanation which invokes causes from the most basic level counts as a process account. We follow this usage in 'Program Explanation: A General Perspective'.

<sup>30</sup> See D. Lewis, 'Causal Explanation', in *Philosophical Papers*, ii (Oxford: Oxford University Press, 1986). See also A. Ryan, *The Philosophy of the Social Sciences* (London: Macmillan, 1970), ch. 3.

physiological factors as the causes of the behaviour, and the neurophysiological features as the causally operative properties, certain configurations of belief and desire program for that type of behaviour: the realization of a configuration that rationally requires a certain type of action more or less ensures that there will be some neurophysiological process available to produce that behaviour.

But the program/process distinction is useful in other areas too. Just to rehearse some more or less obvious applications: if the impact of overlapping surfaces causally prevents a square peg from going through a hole of diameter equal to its side, the squareness of the peg programs for its failure to go through; if the light reflected off the surface of a rag evokes an aggression response in a bull, the red colour of the rag programs for that response; if the molecular bonding pattern of a glass causes it to shatter under a certain impact, the fragility of the glass programs for the shattering; and so on.

To return now to the problem in social theory, we maintain that the program/process distinction is also of use here, offering us a third model of structural explanation. Relative to the level at which the attitudes and actions of individuals are the causal factors which generate social facts, this model suggests that structural factors may program for the appearance of such facts. The idea is that a structural factor may explain a given social fact, not through producing it in the same basic way as individual factors, but through more or less ensuring that there will be some individual-level confluence of factors—perhaps this, perhaps that—sufficient to produce it. A case where the pre-emptive model applies will also be a case of program explanation, since if the fact that a structure is beneficial filters for dispositions which will produce that structure, then in our sense it programs for dispositions of that kind. The important point, however, is that, as our physical case suggests, a macrofactor may program for suitable microcauses even if it does not filter for them. Filtering is just a special case of programming.

In order to substantiate the program model of structural explanations we must turn to examples. Let us consider correlate explanations first: the increase in unemployment explains the rise in the level of crime; urbanization explains

the decline in religious practice; and so on. The aggregate antecedent serves in these cases, just like the fact of the water rising to boiling-point, to make probable the occurrence of the sort of micro-event or -events in virtue of which the fact to be explained obtains: that crime increases or religious practice declines. Higher unemployment means more working-class youths free of work obligations, and more working-class youths short of money, so it makes it highly likely that events will occur which will increase the crime-rate. Similarly, urbanization means an increasing population in areas of new or no parishes, a break with traditional parish-centred life, the isolation of individuals from ties of family and village, and a host of other things any subset of which will tend to produce the microfactors in virtue of which there is a decline in religious practice. The program model fits.

It also fits many function explanations and this is perhaps the most encouraging fact of all, for it suggests that in the wake of the functionalist paradigm we can hold on to some of the social accounts—though certainly not all—which that paradigm inspired; in particular, we can hold on to them even if there is no appropriate selection story to be told. Consider, for example, the hypothesis that stratification is beneficial in the organization of society and that it persists for that reason. The benefit conferred by stratification—that is, the inequality of rewards—is usually held to reside in the fact that important positions which are generally difficult to fill in a society do still get filled. Now it ought to be clear that the fact, if it is a fact, that stratification is beneficial in this sense more or less ensures, at least if nothing else can do the trick of filling the positions in question, that it will persist in any society where it emerges. Imagine that we are in a stratified society where a consequence of the stratification is that the relevant positions get filled. If any initiative is adopted which reduces the given inequality of rewards then under the premisses given that ought to mean that it will become more and more difficult to fill such positions. But if the positions really are important then short of collective action predicaments—and this is admittedly a substantive qualification—we must expect resistance to the troublesome initiative, resistance which in one way or another ought to restore the original level of stratification. Thus we

may say, without invoking any story of selection, that the fact that the stratification is beneficial programs for its reliable persistence: absent collective action predicaments, it more or less ensures that whatever happens at the level of individual attitudes and actions will not cause at least a long-term reduction in the stratification.

This example is special in a way that requires remark. As we have described it, the causal factors whose presence the functionality of stratification ensures—factors associated with the resistance that any shift would elicit—are not actually effective in supporting the stratification; they are standby causes that will only provide support if the stratification comes under threat and support is needed. This means that the functionality does not strictly program for the persistence of the stratification, for the causal factors that actually produce that persistence are not ones whose presence it ensures. What the functionality does program for, however, is the resilience of the stratification—its reliable persistence, as we might put it. It ensures that there are such causal factors present—the standby causes—as suffice for such resilience, at least under the assumption that collective action predicaments and the like do not get in the way.

Still in the realm of function explanations, consider again the Marxist explanation that the capitalist structure persists because it is optimal for the further development of productive power. Suppose that we are in a capitalist society where the capitalist structure really is optimal in this way. Imagine now that an initiative is adopted which crucially alters that structure. Under the optimality assumption, that means that productive power will cease to develop, or at least to develop at the rate it would otherwise have done. But if this happens it is clear that certain individuals will be adversely affected and, more generally, that the society will begin to fall behind competitors in the economic stakes. Again, therefore, collective action predicaments aside, we must expect resistance to any such initiative, resistance which ought to undo the structural alteration. Thus we may say that the fact that the capitalist structure is optimal for the further development of productive power programs for the reliable persistence—the resilience—of that structure: it more or less ensures, collective action pre-

dicaments aside, that whatever happens at the level of individuals will not cause a permanent departure from capitalism.<sup>31</sup>

Interest explanations, to turn to our third category, invoke the interests of organizations and groups to explain events that get described as the actions of such aggregate entities. It is clear that with an organization like a firm or even a state our program model may save such explanations though it is not so clear that this is so for a group like a class.<sup>32</sup> The alleged fact that it is in the interest of Great Britain to stay in Nato, even if this is not recognized by those who act in the country's name, can explain why it may be relied on to do so because it can make it likely, for example, that any bureaucrats who proposed otherwise would meet with objections on the part of colleagues or superiors. On the other hand it is not so clear, especially since collective action problems abound in this area, that the fact that it is in the interests of their class explains why the bourgeoisie allowed universal franchise.<sup>33</sup>

Finally, the program model of structural explanation fits the sort of example we described as context explanations. That the ethic of Protestantism was abroad in seventeenth-century Europe means that many people believed things which encouraged them to condemn idleness, to seek out productive activities, to praise those who found such activities, and the like. And that people were led in any such directions would have ensured in the circumstances of the period that capitalist activity would flourish. That is a fair paraphrase of the Weberian line and it shows how that line readily makes sense on the program model of structural explanation. And such a paraphrase, it should be clear, is going to be available for most plausible context explanations.

Our survey of examples establishes that on the program

<sup>31</sup> Our analysis suggests a recasting of the argument identified by G. A. Cohen but a recasting he ought to find congenial. See G. A. Cohen and W. Kymlicka, 'Human Nature and Social Change in the Marxist Conception of History', *Journal of Philosophy*, 85 (1988), 171–91.

<sup>32</sup> See P. Pettit, 'Towards the Social Democratic Theory of the State', *Political Studies*, 35 (1987), and B. Hindess, *Politics and Class Analysis* (Oxford: Blackwell, 1987).

<sup>33</sup> See R. Hardin, *Collective Action* (Baltimore, Md.: Johns Hopkins University Press, 1982). See also P. Pettit, 'Free Riding and Foul Dealing', *Journal of Philosophy*, 83 (1986).

model the sorts of structural explanation at which we have been looking often make sense. That result is powerful support for the model, given that the same is not true of the alternatives we have considered. But there is a further point also to be made in its support and that is that structural explanation remains a significant and interesting sort of explanation on the program model.

Here's a test of significance for any program explanation. Suppose that we have a program explanation of an event *E* by reference to an antecedent *P*, and that *P* explains *E* because its realization effectively ensures that some factor of type *F* occurs. Imagine now that we identify the *F*-factor in operation. A useful test for the significance of the original program explanation is to ask whether it offers any information not available, at least under ordinary assumptions, to someone possessed of the *F*-explanation. Is the program explanation more than a proxy account which has no value in the presence of that for which it goes proxy?

By this test of significance at least some program explanations will certainly fail. Consider the explanation of why a jug breaks when tapped with a spoon: it is fragile. Relative to the molecular level of activity, this is a program explanation, for the disposition of fragility does not itself produce the breaking; its realization rather ensures that the jug is of a molecular bonding pattern which has that effect. Suppose now that we identify the molecular bonding of the jug and understand that it is this which accounts for the breaking. Does that account deprive the original program explanation of interest? We think it does, for under ordinary assumptions someone possessed of that account has information sufficient to know that the jug broke because it was fragile. The fragility explanation fails our significance test.

Other program explanations, however, certainly count as significant by this test. And among them, importantly for our purposes, is the physical analogue with which we have been working: the case where the rise in temperature of the water explains the cracking of the flask. We might know that the event which produced the cracking was the collision at a certain velocity of such-and-such molecules with this or that part of the flask surface and not know either that the water had

reached boiling-point or, even if we knew that, that there is a constancy in the relationship between water boiling and events like the cracking of such a flask. Thus the program explanation is significant in its own right. It gives us explanatory information that is not necessarily available to someone possessed of the other account.

The lesson for social structural explanations should be clear. Since they generally go in parallel with the physical analogue just discussed, it seems that they must also count as potentially significant. The point is borne out by our examples. Logically you could have an explanation of the decline in religious practice which invokes changed values, changed parish structures, and the like without being in a position to see that urbanization programs for the availability of such an explanation. You might not advert to the fact of urbanization and, even if you did, you might miss the constancy in the relationship between urbanization and religious decline. A similar analysis clearly applies to all our cases and we conclude that, on the program model, structural explanation is not just generally a valid exercise; it is generally a significant one too.<sup>34</sup>

In conclusion, we return to a theme broached in the introduction. Now that we have seen how macro-explanation works in social theory, we can see that this also is how micro-explanation operates. We mentioned in the introduction that a micro-explanation abstracts from the identities of people, say explaining a particular result by the fact of *some* people's having certain attitudes or performing certain actions; or abstracts also from the content of their attitudes, perhaps explaining the result by the fact that it was in the rational interests of some people. It remains a form of micro-explanation, not through being less abstractive from psychological detail, but through keeping us focused on a single sort of psychological factor, however abstract: that some people think such and such, that some people have a rational interest in this or that. But if micro-explanation is abstractive in this way, it itself raises the sort of problem that has been troubling us with structural explanation. The linkage between *some* people's thinking such

<sup>34</sup> See D. Papineau, *For Science in the Social Sciences* (London: Macmillan, 1978), ch. 5, for congenial observations.



and such and a social result is realized by the linkage between John and Mary and . . . thinking such and such and the result. Similarly, the connection between a result's being in the interest of those people and the occurrence itself, or the reliability of the occurrence, is realized by the linkage between their thinking such and such and the result. The problem then is how such abstractive explanation can be of interest, given the possibility of access to the more concrete connections. Shouldn't microtheory, like macrotheory, give right of way to the detailed psychological aetiology of the results it aspires to explain?

The problem in the microcase lends itself, happily, to the same sort of resolution as the problem of structural explanation. That some people think such and such programs for the result explained in the sense that it ensures that whatever happens at the more detailed level—whether John and Mary are replaced, for example, by Jack and Jill—it will suffice for the occurrence of the result. And the fact that the result is in the rational interest of those people, so at least the explanation says, programs equally for the result or for the resilience of the result; alternatively, it programs for their thinking and doing, or reliably thinking or doing, such things as mean that the result materializes.<sup>35</sup> Thus we see that not only is the problem driving this paper a problem equally for micro- as well as macro-explanation. It is also a problem which is solved by the same feature in the two cases: the fact that the explanation is of the program rather than the process variety.

##### 5. THE LESSON FOR SOCIAL ONTOLOGY

Our models of structural explanation bear not just on issues of methodology, but also on questions of ontology. There are two questions at the centre of social ontology, although they have not always been distinguished. We shall argue that making a choice between our three models, in particular going for the

<sup>35</sup> On this account, rational choice theory may have a role in explaining why behaviour that is itself explained in other terms is more or less robust or resilient: rational interest is a standby motive. See P. Pettit, 'Virtus Normativa: Rational Choice Perspectives', *Ethics*, 100 (1990), for an illustration.

program model, determines the answer to one of these but not to the other.

The first question in social ontology has to do with how far the members of a society logically depend on their relationships with one another for the possession of those properties which distinguish them as rational agents. How far, for example, do I depend on the convergent responses of my fellows for being able to form concepts and think thoughts involving those concepts? The atomist tradition says that logically I do not depend in this way on the other members of my society. The non-atomist or holist tradition says that I do. Atomists have been in the ascendant in Western philosophy but holists abound too. The German Romantics who stress the social character of thinking, their Hegelian and other nineteenth-century successors, and those who follow Wittgenstein on the social nature of rule-following should probably all count as holists in this sense.<sup>36</sup>

The other significant question in social ontology is easily confused with the first. It has to do with how far the members of society, whether they are conceived of atomistically or holistically, retain their apparent autonomy in the presence of higher-order social constraints. Do I remain my own master, as it seems I do, even though I live in a society governed by aggregate-level regularities? The individualist tradition says that I do; the opposed collectivist tradition says that in some sense I do not.

Where the atomist/holist question bears on the 'horizontal' issue of the relations between individuals, the individualist collectivist question bears on the 'vertical' issue of the relation of individuals to higher-order social constraints. Although they are clearly distinct questions, they have been consistently run together in the philosophy of social science, and perhaps more broadly. One reason for this is that they are each often cast in the same procrustean mould, as the question of how far social matters can be reduced to matters that distinctively involve just the separate members of society.<sup>37</sup> Since holism and

<sup>36</sup> At least one of us finds such holism congenial. See P. Pettit, *The Common Mind* (New York: Oxford University Press, forthcoming).

<sup>37</sup> For other reasons why they have been confused see Pettit, 'Social Holism without Collectivism'. The reductionist model of the individualism/collectivism

collectivism equally argue against reductionism, they are easily taken for the same thing; and similarly for atomism and individualism.<sup>38</sup>

Our discussion of structural explanation does not bear on the issue between holism and atomism, and the program model which we prefer is compatible with either doctrine.<sup>39</sup> But the discussion clearly does bear on the issue that divides individualists and collectivists and we would now like to comment on where the program model would have us stand.

Let a person be said to exercise ordinary agent autonomy, just so far as it is generally true of the things she does that, as we say, she could have done otherwise. When we say that she could have done otherwise we do not mean that given exactly the beliefs and desires she had at the moment of action, still she might have done something other than what she did: that would be to deny that her beliefs and desires impose determinate requirements on her actions. We mean that fixing just the fact of her being susceptible to the influence of beliefs and desires, it is possible that she should have done another action: her beliefs and desires might have evolved or combined in a different way to produce action.

When we say that someone acted autonomously in this sense, we deny that anything undercuts the possibility that her beliefs and desires might have gone the other way. First we reject 'predestination': the claim that she would not have been there to do what she did but for the fact of her having the beliefs and desires that actually moved her. And secondly we reject 'predetermination': the thesis that she was compelled to

debate is rejected in favour of something like the model invoked here in Macdonald and Pettit, *Semantics and Social Science*; D. H. Mellor, 'The Reduction of Society', *Philosophy*, 57 (1982), 51–75; S. James, *The Content of Social Explanation* (Cambridge: Cambridge University Press, 1984); and B. Williams, 'Formal and Substantial Individualism', *Proceedings of the Aristotelian Society*, 85 (1984–5).

<sup>38</sup> It must be conceded, of course, that the exaggerated versions of holism which have thrived in the post-Hegelian tradition readily lead to collectivism. If you think that relationships with others are necessary for being able to think at least certain thoughts, then you may easily be led into reifying the collective mind or whatever; and in that case you have postulated a social entity sufficient to delight any collectivist.

<sup>39</sup> For a sketchy defence of this claim, see Pettit, *The Common Mind*.

have the beliefs and desires that she had in such a way that ordinary differences of evidence or whatever would not have changed them.

An example may help to make this notion of agent autonomy vivid. Imagine a schoolgirl at a hockey match who cheers for her school's team. We would say that such a girl could have done otherwise if certain pieces of evidence could rationally have caused different beliefs and desires, and thereby a different response: for example, if evidence that her side was cheating might have lessened her desire sufficiently for her not to cheer any longer; or if evidence that the goal-keeper on her side was unnerved by her cheering might have stopped her doing so; or something of the kind. There must be some such factors that would have been capable of making a difference.

We would hesitate to say that the girl could have done otherwise under at least two sorts of circumstance. One is where she is predestined to cheer, as in the case where her schoolmistress would remove her from the stadium if she failed to cheer. And the other is where she is predetermined to cheer in a manner that leaves her insensitive to the considerations mentioned in the last paragraph: say, if she was under a hypnotically or neurally induced compulsion to cheer.

When collectivists say that people's agent autonomy is compromised by the social macroworld, we shall take it that they mean that for at least some of the things that people do, the macroworld is such that they could not have done otherwise. There are structural factors which produce the behaviour in question, and do so without becoming objects of consciousness in the ordinary intentional way. Or there are structural considerations which filter for the presence only of people who are disposed to behave in that way.

Given this understanding of collectivism, it is clear that both the subversive and the pre-emptive answers to the problem of how macro-explanation is possible would commit us to collectivism. The subversive answer has macrofactors influence individuals in a way that directly subverts intentional processes and means that the agents could not have done otherwise. The pre-emptive answer has it that people are selected for the disposition to behave according to a certain pattern in some areas and that they would not be there to make their contribu-

tion if they were genuinely disposed to do otherwise. The first answer asserts predetermination, the second a sort of predestination.

The question then is whether the program model that we have endorsed involves a similar commitment to collectivism. The answer is that it does not. The model gives us no reason to think that in any areas of behaviour people cannot act otherwise than they actually do. The model does not explicitly invoke any predetermining or predestining device that would motivate such a belief.

We conclude then that the program model of macro-explanation ought to be found congenial by individualists. Still, there are things to say on the other side. We shall say three.

The first is that while the program model does not undermine individual agent autonomy, neither does it particularly flatter the individual. It suggests that for many of the things that happen in social life—specifically, those that are subject to structural explanation—the particular attitudes and actions of particular individuals which led to those things were not necessary prerequisites. If those people had not done those things, other people would have wittingly or unwittingly stepped into the breach. Thus, if our model does not undermine agent autonomy, it does suggest that the initiatives of individuals may not be as important as is often thought. There are constancies in social affairs which no individual is in a position to alter.<sup>40</sup>

The second thing that needs to be said on the collectivist side is that while the program model does not offend against individualism as a constraint on social explanation, it does break with the tradition which sees individualism as a heuristic for social explanation. The constraint approach insists that no social explanation ought to be acceptable, if it assumes that people behave otherwise than in an agent-autonomous way. The heuristic approach insists, much more strictly, that only micro-explanations—in the end, perhaps, only detailed psychological aetiologies—ought to be acceptable in social

<sup>40</sup> This theme is emphasized by Richard Miller in 'Methodological Individualism and Social Explanation' and Susan James, *The Content of Social Explanation*. See also Williams, 'Formal and Substantial Individualism' and Elster, *Explaining Technical Change*, 32–3.

theory. Thus, many proponents of the rational choice approach write as if the notion of structural explanation is intrinsically flawed. It is clear that if we endorse the program model of such explanation, then we break with heuristic individualism, even if we stick with the other variety.

The third thing to say on the side of collectivism is that the program model forces a break, not just with heuristic individualists, but also with those individualists who tolerate structural explanation but think that the micro-explanation of any social fact is always bound to be of more interest; such individualists may even think that the micro-explanation deprives the structural explanation of whatever interest it possesses.<sup>41</sup> On the program model, structural explanation serves a different sort of interest from micro-explanation, as micro-explanation serves a different interest from detailed psychological aetiology, since it gives a different kind of information on the causal history of the event explained. What is more, the information provided may not be available, as we saw in the last section, just through access to the micro-explanation. Thus the structural explanation may be just as interesting as the micro-account; indeed, depending on background assumptions, it may even have greater interest.

And so to our conclusion. The program model of structural explanation is not only a satisfactory account of how such explanation works.<sup>42</sup> It also gives us a nice perspective on the debate between individualists and collectivists. It means that we can embrace the persuasive individualist claim that individuals are agent-autonomous. But it also allows us to understand the collectivist thesis that individuals often make little difference in the course of history and that the best way to study society is often from the top down, not from the bottom up. Those claims constitute the true and attractive core of collectivism.

<sup>41</sup> Thus we reject the claim, in Michael Taylor's words, that 'good explanation should be, amongst other things, as *fine-grained* as possible', 'Rationality and Revolutionary Collective Action', in M. Taylor (ed.), *Rationality and Revolution* (Cambridge: Cambridge University Press, 1988), 96. Taylor follows Elster, *Explaining Technical Change*, 24 and 27–8. See our 'In defence of explanatory ecumenism', *Economics and Philosophy*, forthcoming.

<sup>42</sup> In our view social micro-explanation, being relatively abstract, also fits the program model. But that is another story.