FUNCTIONAL EXPLANATION AND METAPHYSICAL INDIVIDUALISM*

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G. A. Cohen defends and Jon Elster criticizes Marxist use of functional explanation. But Elster's mechanical conception of explanation is, contrary to Elster's claims, a better basis for vindication of functional explanation than Cohen's nomological conception, which cannot provide an adequate account of functional explanation. Elster also objects that functional explanation commits us to metaphysically bizarre collective subjects, but his argument requires an implausible reading of methodological individualism which involves an unattractive eliminativism about social phenomena.

1. Introduction. G. A. Cohen's reconstruction of Marx's theory of history is based on functional explanation. But Jon Elster claims that "[t]here is no place for functional explanation in the social sciences" (1984, viii); he qualifies this flat claim, but not by much. Elster prefers intentional explanation on a rational-choice pattern, which shows how individual action issues in the collective outcomes that interest Marxists (e.g., technical change or class struggle) by explicitly stating their underlying mechanisms. More deeply, Elster thinks, rational choice theory, but not functional explanation, respects the principle of methodological individualism—that social phenomena be explained ultimately only in terms of the properties of individuals. But while Cohen's defense of functional explanation is flawed, Elster's critique is unsuccessful. Sorting the issues out illuminates the role of microexplanation in social theory.

In section 2, I argue that Elster fails to show that functional explanation is objectionable or to locate the deep problem with Cohen's version of it—its reliance on an untenable model of explanation which Elster himself rejects. Cohen's claim that functional explanations need not state their mechanisms is better defended with Elster's mechanistic account of explanation than with Cohen's nomological one. In fact Cohen's is not an account of functional explanation at all. In section 3, I argue that Elster's basic objection to functional explanation derives from an implausible

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methodological individualism which involves an a priori eliminativism about social entities and properties based in metaphysical, not methodological, considerations. A more modest reductionist individualism is consistent with functional explanation, although whether it is right is an open question.

1.1. Functional Explanation: General. Cohen characterizes functional explanation "*very roughly* [as holding] that the character [or existence or persistence] of what is explained is determined by its effect on what explains it" (1986, 221). In biology, the presence of some trait in a population—eyes, camouflage—is explained by its adaptive function in promoting fitness, "[P]lants and animals have the useful equipment they do because of its usefulness" (ibid., 227). In social theory, the existence, persistence, or character of some social phenomenon X is explained by X's beneficial consequences Y for a group Z. These are X's functions relative to an explanatory theory. Thus Marxism might explain welfare as reducing social unrest which might threaten dominant class rule. Three qualifications are in order.

First, to say that Y functionally explains X or to identify Y as X's function is not to say that X is optimally functional in that no counterfactual alternative W would better promote Y. Welfare may enhance social stability, and social stability explain welfare, even if full employment would do even better. As organisms must adapt with the random and imperfect variations nature gives them, so must social systems with the nonrandom but imperfect variations they can generate. The contrary view is the error of "Panglossian" adaptivism.

Second, functional explanation does not explain the past in terms of the future. That Y occurs is evidence of dispositions holding prior to Y's occurrence, such that Y is explained by this disposition. It is not that a later lessening of social unrest causes an earlier institutionalization of welfare, but that if societies are such that welfare would have this beneficial effect, then they will tend to institutionalize welfare.

Third, whether we regard some consequences as beneficial depends on our theory of the system. A theory may identify some consequences as functional, contributing to the proper or normal working of the system. We cannot identify a function without such a theory. Not all consequences will be functional. Welfare may reduce incentives to work, but this does not contribute to capitalism's proper or normal working: Functions are *beneficial* consequences. Whether citing a function is *explanatory* is a further question.

1.2. Functional Explanation and Marxism. Cohen notes that the "major Marxian explanatory claims are functional in character" (ibid., 222).

Unlike Elster, Cohen thinks that this is not a problem. Functional explanation provides Marxism in particular with a clear account of the explanatory priority that historical materialism accords to economic factors. Attempts to capture the dependence of the "superstructure" on the "base" in merely causal terms involve a dilemma. If we say that economic factors cause political or ideological ones but not vice versa, we have asymmetry, but the claim is false, and it makes nonsense of Marxist claims about the causal role of the superstructure, for example, that ideologies promote economic interests. But if we admit mutual causal determination between base and superstructure, explanatory priority evaporates. Nothing is then basic about the economic base.

If the superstructure is explained *as functional* for economic interests, however, it can have causal powers with respect to the economy and yet be explanatorily secondary (ibid., 221). Functional explanation admits a theoretically interesting asymmetry between the function and what it is functional for while preserving causal interaction. To say that eyes enable animals to see explains why many animals have eyes. To say that animals have eyes does not explain why eyes enable them to see. Likewise, to say that welfare reduces social unrest may explain why societies have welfare, but it does not explain why welfare reduces unrest to say that capitalist societies have it. The conceptual value of Cohen's suggestion that the dependence involved in historical materialism is functional is great. Failing an alternative account of this relation, Elster's attack on functional explanation is an attack on historical materialism.

2. Naive Functional Explanation and Pseudoexplanation. Cohen and Elster reject "naive" functional explanation, which holds that the beneficial consequences Y of some social practice or institution X are sufficient to explain X. Cohen says that even if "[r]eligion is required to sustain the social order" (ibid., 224), it may be false that "[r]eligion exists because it is required to sustain social order" (ibid.; see also Elster 1986, 203). That a social order has what it needs to sustain itself might be a coincidence, or its needing what it has does not explain why it has what it needs. Elster proposes the following conditions for a valid social functional explanation. An institution or behavioral pattern X is explained by its function Y for group Z iff:

(E1) Y is an effect of X;
(E2) Y is beneficial for Z;
(E3) Y is unintended by the actors producing X;
(E4) Y—or at least the causal relation between X and Y—is unrecognized by the actors in Z;

(E5) Y maintains X by a causal feedback loop passing through Z (Elster 1983, 57; 1984, 28).

The main issue between Cohen and Elster concerns E5, but E3 and E4 deserve some attention. Elster imposes needlessly stringent conditions upon functional explanation that lead him to understate its evidential base—see 2.3 (ii).

2.1. Functional Explanation and Intentionality. Elster intends E3 and E4 to capture the nonintentional character of functional explanation: If X is deliberately produced by Z to attain Y, he thinks, we have a nonfunctional causal-intentional explanation. Elster supposes that invoking intentions means that only the *expectation* of the consequences of X is explanatory; whether Y occurs or is beneficial is irrelevant (1985, 8). This is a mistake. Where people act to bring about expected benefits, but the expected results do not transpire or are not beneficial, the explanation will not be functional. That is no reason, however, to withhold the term "functional" from explanations where anticipated benefits occur and feed back to maintain the disposition to behavior that produces them.

Fisk insists that functional explanation in social theory *requires* that we "explain an institution on the ground that people chose to construct it because it would actually serve a certain purpose" (1989, 151), because he too wishes to avoid "impersonal teleology" (ibid.). This is also a mistake. To say that welfare is "for" social stability is no more strange than to say that eyes are "for" sight. If impersonal teleology is unobjectionable in biology, it is so in social theory. Whether a beneficial effect is intended is irrelevant to whether it is explanatory in a functional way. The real conditions to consider are E1, E2, and E5.

Even by Elster's criteria, E3 and E4 are too strong. Against E3, Y may be intended by those producing X so long as they do not intend to promote Y by producing X or if their intentions are causally irrelevant or unnecessary to producing X. The explanation that religion exists because it promotes social stability remains nonteleological if religion is produced independently of ruling class intentions, even if they intend to promote social stability by producing it. Marx says that religion is "the sigh of the oppressed creature, the feeling of a heartless world, and the soul of soulless circumstances" (Marx and Engels 1975– , vol. 3, 175); that is, it arises from the situation of subordinate groups and not from ruling class intentions. *Then* he adds the functional claim, "It is the opium of the people" (ibid.).

Against E4, why is it objectionably teleological—if teleology is objectionable—for actors in Z to recognize that social stability is beneficial or that religion promotes this benefit if this recognition remains causally

inefficacious or superfluous? The capitalist class, Marx says, "is fully aware" (ibid., vol. 43, 475) that working class divisions due to ethnic chauvinism are "the secret" (ibid.) of its continued rule. Suppose this is so. Why that should disqualify the explanation as a functional one is unclear.

2.2. Consequence Laws. Elster and Cohen agree that functional explanation must be backed by a mechanism of the sort indicated in E5. Elster holds that "we must indeed provide the full feedback loop" (1986, 206) by which Y's benefits maintain X, a causal chain connecting the function to what produces it. Cohen denies this, "We can rationally hypothesize functional explanations even when we lack an account which, like Darwin's, shows how the explanations work" (1986, 227).

Cohen's first proposal for avoiding naive functional explanation involves appeal to "consequence laws" modeled on nonfunctional causal laws. He distinguishes between explaining "how" something occurs and explaining "that" it occurs. A good explanation need not specify a feedback loop (the "how") if we show a lawlike connection between explanans and explananda (the "that"). We may "rationally hypothesize" a functional explanation on the basis of no more than E1–E4, without stating a mechanism, if we have a lawlike generalization of the form,

$$(X_t \rightarrow Y_{t+n}) \rightarrow X. \qquad (1)$$

For example,

> If institutionalizing welfare payments would enhance social stability in unequal societies, then unequal societies will have a disposition to institutionalize welfare payments.

From such a law we may infer that when the antecedent holds, the consequent follows. Since not all consequences are beneficial, not all consequence laws will advert to functions. But for Cohen all functional explanations at least tacitly assert such laws. This is what makes them explanatory. I return to this in 2.2 (ii).

With respect to naive functionalizing, the idea is this. A consequence law might be predictive and (dis)confirmed by its instances, thus rationally acceptable, even if we cannot explain the embedded conditional by stating how X's producing Y maintains X. Cohen contrasts his proposed sort of test with Elster's by considering how to determine whether a country-house guest was poisoned. Elster would perform an autopsy. Cohen would examine what the guests ate and inquire into which ones took ill or died. We seek "appropriately consonant and discrepant parallel instances" (Cohen 1989, 99), rather than mechanisms. Finding such instances, we can be confident that we are not being naive.

(i) Does Specifying a Mechanism Abolish Functional Explanation? Elster's main objection to this proposal can be expressed in a dilemma. First, without stating a mechanism, functional explanation is too incomplete to be explanatory, but, second, if such a mechanism is supplied, we need not advert to functionality at all. Taking the second horn first, Elster, echoing Hempel, holds that

> a functional explanation can be improved and still remain functional if we extend the causal chain *almost* the whole way back to the explanandum. . . . The limiting case of an improved functional explanation is a causal explanation—if the chain of consequences is extended the whole way back to the explanandum. (1986, 206)

Here, Elster intimates that if we fill in all the causal links, explanatory appeal to function drops out. Sometimes, though, he admits that functional explanations survive even when we specify the full causal loop, but denies that these are common enough to be worth pursuing—see 2.3(ii). If he wants functional explanation in biology, he should say this, because the first view implies that there are *no* valid functional explanations. That claim is worth exploring, however, because it might appear to follow from the deductive-nomological (D-N) model of explanation and to make trouble for Cohen. Hempel has some (rather weak) grounds for the claim, but it is a non sequitur on Elster's mechanistic account of explanation.

Hempel argues that "functional analysis" (1965, 329) is a nonexplanatory "heuristic" (ibid.) for research on "self-regulatory aspects of social and other systems" (ibid.) themselves explained nomologically. On the D-N account, an explanation is a logical derivation of the explanandum from a statement of a law and some initial conditions. Since functions may be multiply realizable or served by functionally equivalent mechanisms, that a system satisfies a function implies only that it realizes one of a disjunction of mechanisms. So the form of a consequence generalization should be put not as (1) above but as

$$((X_t \vee Z_t \vee A_t \vee \ldots) \rightarrow (Y_{t+n})) \rightarrow (X \vee Z \vee A \vee \ldots). \qquad (2)$$

That one way, X, of producing beneficial effect Y would be functional were it to occur fails to explain why X does occur rather than the equally functional Z or A. So reference to functionality, Hempel claims, is nonexplanatory.

The objection is worse for Cohen, who treats explanation as nomological, if not D-N, than for Elster—in 2.2 (iii), I return to Cohen's uneasy relation with the D-N model. Cohen argues that functional explanation can be D-N if we can deny multiple realizability. Where no equivalent mechanisms could subserve the beneficial effects, (1) is the correct way to represent the law. Even where multiple realizability obtains, he suggests, the law represented by (2) explains why some member of the class of functionally equivalent features ($X \vee Z \vee A \ldots$) occurred, if not why the one, X, that did occur in fact occurred (1978, 272–277).

But for Elster, "to explain is to provide a mechanism, to open up the black box" (1985, 5), not to state a law of which the explanandum is an instance. He collapses the distinction between "explaining how" and "explaining that". Stating *that* something is expectable on the basis of a generalization is more like a prediction than an explanation. To explain is to fill in the chain of causes with a tightly linked mechanical account of *how* the explanandum occurred which specifies the proximate cause of every link on the chain.[1]

Nonetheless this fails to show that specifying a mechanism eliminates explanatory reference to functionality. Multiple realizability just means that various possible explanations correspond to functionally equivalent mechanisms. A *correct* functional explanation specifies the mechanism that actually realizes the function. A *complete* functional explanation *involves* a causal explanation as a component. Giving the mechanism may elaborate the functional explanation by showing how it accounts for the function. Filling in the causal links need not abolish and may underwrite the explanatory force of appeal to those effects.

Why does Elster suppose otherwise? If a specification of mechanism shows that there is no feedback loop, explanatory reference to functionality will drop out. Welfare might be nonfunctionally explained by a compromise between the state and business, whose differing interests call for control of parts of the social product. The stabilizing effect of welfare would be a happy consequence (for dominant groups) which, however, would not figure in its explanation. It is perhaps because Elster thinks that most important social phenomena have nonfunctional rational-choice explanations that he sometimes says that specifying mechanisms would eliminate functional explanation. But specification of the mechanisms by which any functions which *do* promote their causes will retain their explanatory force.

(ii) Does Cohen have an Account of Functional Explanation? Cohen's consequence law move, however, *does* eliminate explanatory reference to functionality. Cohen's defense is worse for functional explanation than Elster's critique, as we can see if we ask: In virtue of what does a functional explanation *explain*? For Cohen, it does so in virtue of instantiating

[1] Elster confuses matters when he says both that "to explain is to provide a *mechanism*" and that "the goal of science is to explain by means of laws" (1985, 5). The two accounts are compatible (see Railton 1981) but distinct, and the mechanical account does not need laws, which is convenient in social and biological science where we often do not have them.

a nomological connection between a system's disposition to produce a consequence and an occurrence of that consequence. Functions, minimally, are beneficial consequences relative to a theory of a system. But for an explanation of X to be functional, that is, to be in terms of its beneficial consequences Y, we must advert to the fact that the consequences are *beneficial*.

On Cohen's account, though, that beneficial character is adventitious. As Cohen acknowledges, "[A] functional explanation is a consequence explanation in which the occurrence of the *explanandum* . . . is functional for something or other . . ." (1978, 263). Cohen proposes that we "generalize the question 'What makes benefit-statements [that Y is beneficial for a system] explanatory?' by asking instead: what makes citation of consequences, be they beneficial or not, explanatory?" (ibid., 259). That the effects are beneficial does not work.

This cripples Cohen's account of functional explanation. To make the point vivid, consider the following consequence law:

> If institutionalizing welfare payments would provide a disincentive for recipients to work in unequal societies, then unequal societies will have a disposition to institutionalize welfare payments.

The proposed explanation involves a *dys*functional consequence explanation on all fours with the functional explanation of welfare by its promotion of social stability. The explanatory work is done by the lawlikeness of the generalization, not the beneficiality of the consequences—since they are not beneficial. But the structure of Cohen's functional explanations is exactly the same. So reference to functionality, qua beneficial consequences, drops out. The consequence law account is not an account of functional explanation, but merely happens to include functional explanations because they advert to consequences.

The proposed dysfunctional law has a certain implausibility. Why would a system retain features that produce harmful effects? Elster might suggest a nonfunctional rational-choice explanation—for example, that the harmful effects are "invisible foot" consequences of individually rational actions. Thus if welfare exists because of bureaucratic empire building, the organizational dynamics that produce it may override its harmful effects for capitalism. Or these effects might have a deeper (genuinely) functional explanation: Fisk holds that such dysfunctional effects are connected with beneficial consequences, such as social stability, and if capitalism is to enjoy the latter it must put up with the former (1989, 189).

If Cohen makes consequence laws the backing for functional explanation, he cannot pick out as explanatory functional rather than dysfunctional consequences. A consequence is a consequence, no matter how dysfunctional. The implausibility of dysfunctional consequence explanations and the felt need to account for why systems retain dysfunctional features contrasts with our sense that reference to beneficial consequences may itself have explanatory force or at least does not demand further explanation. Since we must avoid naive functionalizing, though, we need some way to distinguish between cases where citing beneficial consequences is explanatory—because they are beneficial, not just because they are consequences—and where harmful consequences occur in a way that needs further explanation. Simply pointing to the fact that functions are consequences which may instantiate lawlike generalizations does not do this.

(iii) Mechanical Explanation and the Specter of Empiricism. With respect to *incomplete* functional explanations—the second horn of the dilemma—the problem is that without specification of a mechanism, the consequence generalization may be an accidental correlation, or its operation may be "pre-empted" by some mechanism unrelated to the beneficial effects of Y. Or Y and X may be joint effects of a common cause and so not explanatorily linked. Elster's point is that functional explanation risks naivete if we do not specify a mechanism, without which we cannot be confident that the benefits Y of some practice or institution X are explanatory correlates of X. Cohen replies that a similar problem infects causal explanations, "The existence of the fallacy *post hoc ergo propter hoc* does not disqualify all causal explanations. Neither does the comparable fallacy of supposing that, if something is functional, it is *explained* by its function(s), rule out all functional explanations" (1986, 225). But empiricist accounts of causal explanation suffer from the same objections that infect such accounts of functional explanation. By "empiricist" I mean the view that stating that a phenomenon instantiates a lawlike generalization explains it. Such empiricism need not be tied to a regularity theory of causality, the D-N model of explanation, or other empiricist doctrines.

The problems of pseudoexplanation are familiar from the standard counterexamples to the D-N model, for example, the "explanation" of a storm by the (nomologically connected) fall of a barometer. The problems do not depend on laws of any special sort such as consequence laws. The difficulty is not with functional explanation but with any merely nomological model of explanation. If we say that stating an instance of a lawlike regularity is sufficient for explanation, we lose explanatory asymmetries and the distinction between genuine and pseudoexplanations. The moral is that empiricist accounts of functional and causal explanation are equally inadequate, not equally good.

Cohen makes the usual animadversions against the D-N account (1978, 273), but he does not attempt to show that his own nomological account

can avoid the problems, "A consequence explanation relates to a consequence law in whatever way explanations relate to laws. It is not our task to say what that relation is" (ibid., 272). Cohen may reject the D-N model, but he offers nothing but lawlikeness to account for the explanatory character of consequence generalizations. Any merely nomological account is subject, however, to the same objections.

Cohen might say that a nomological regularity is evidence of an underlying mechanism. Cohen writes, "[If] the question *how* the functional explanations of historical materialism explain cannot even in principle be answered, then that would have lethal significance for historical materialism" (1989, 98). Quite so, but so much the worse for historical materialism—if the links cannot be forged. The standard counterexamples are fatal for a theory that purports to *explain* by generalizations unsupported with *independent* evidence that mechanisms exist.

The problem is especially grave if rival explanations do suggest nonfunctional mechanisms—and rational choice theory makes it easy to construct these for the social case. So our confidence in the explanatory force of a functional claim unsupported by mechanism cannot be enhanced by finding "appropriately consonant and discrepant parallel instances" (ibid., 99) of similarly unsupported functional claims. We might as well support the claim that the fall of the barometer explains the approach of the storm with the observation that the fall of the barometer explains the drop in air temperature.

Mere regularities might be evidence of causality, including functional causality. Biology is full of such cases. But the social cases of functional explanation are disanalogous. In the biological cases, often no plausible alternative hypotheses exist, unlike in the social cases. Even if welfare is nomologically associated with social stability, the availability of nonfunctional explanations (rational choice, among others) means that we have no reason to prefer the functional explanation. Multiplication of similar and discrepant regularities faces the same problem: Alternative nonfunctional accounts can be likewise proliferated.

This tells against Cohen's defense of functional explanation, but it does not support Elster's attack. Since specifying a mechanism may elaborate a functional explanation, Elster's insistence on mechanism can be a way to defend functional explanation. Offering a systematic alternative to a nomological model is beyond my scope. It is sufficient to invoke, ad hominem, Elster's conception of explanation as the elucidation of causal mechanisms, which underlies the demand for microfoundations to social explanation in the first place. On this view a function is explanatory in virtue of an appropriate mechanical relation between the beneficial effect Y and its explanandum X, not of a consequence law. A cause is explanatory because it provides a mechanism that produces the effect, whether

or not a law connects them. The mechanism rules out pseudoexplanation in both cases.

I have no detailed account of what Railton calls explanation by "elucidating the mechanisms at work" (1981, 242). He himself has nothing "very definite to say about what would count" (ibid.) as doing this. Elster reverts quickly to metaphors about "opening up the black box" (1985, 5) and showing "the nuts and bolts" (1989c, 7). Intuitively, mechanical explanation involves elucidating the causal chain that produces or constitutes the explanandum, stating *how* it occurred. A complete mechanical explanation fills in every step in the process with a specification of its proximate cause. Mechanical explanations may involve laws, but they are good explanations even if we cannot say anything interestingly nomological. If laws turn up, so much the better.

How then do we know whether such a mechanical relation holds? Need we explicitly set out the mechanism that produces the effect? That may be the best alternative, but ours is not the epistemologically best of all possible worlds. If we cannot, are we talking through our hats, as Elster usually insists? I think not. To have a good explanation, we need only reasonable assurance, independent of any mere (set of) regularities, that a mechanism exists. This may be second-best, but it is often good enough and is the norm in biology.

2.3. Evolutionary Explanation in Biology and Social Science. This inspires Cohen's second strategy, the appeal to evolutionary explanation. As Elster puts it, "[We] may have general knowledge about the kind of mechanism that is operating, even when we are unable to provide the details. This would be analogous to the role of the theory of natural selection in functional explanation in biology" (1986, 203). In biology, the specific mechanism that produces a trait in a population depends on a Darwinian history whose details are often inaccessible. But we can analogize from cases where they are not, given a general type of mechanical explanation—chance variation and selection under scarcity. Thus Darwin (1964) introduces natural selection by appeal to the analogy of artificial selection.

To say that traits are selected without saying how a given trait was selected leaves unsupported any claim to have functionally explained it. An explanation remains a "just-so" story if it cannot be tested. But tests of particular explanations are possible short of providing a mechanism. Any explanation has implications that leave testable traces and, as Kitcher argues, their absence or presence can be brought to bear even when the actual Darwinian history is lost (1985, 58–72). Alternative histories can be eliminated if the traces they should leave—fossils, behavior of similar organisms, and so on—are absent. In his defense of the camouflage ex-

planation of melanism in English moths, Kettlewell could create consensus that we have the actual Darwinian history, but we normally lack the kind of knowledge that allowed Kettlewell to eliminate all but one possibility. Still, the elusiveness of this ambitious ideal does not rule out "tentative acceptance of [a] hypothesis . . . accompanied by an assessment of the extent of our ignorance, or . . . by efforts to remedy it" (ibid., 72).

Elster's insistence that we must put in the nuts and bolts would rule out most evolutionary explanations. All we need is evidence that there *are* nuts and bolts of the sort that would produce the phenomena, that a mechanism operates in analogous cases where we can at least sketch the story and which, in the actual case, leaves testable traces that would tend to (dis)confirm its operation. In passing, Elster admits that even absent a provision of the mechanism, functional explanation might be acceptable if we can "give reasons for thinking that some . . . mechanism must be operating" (1985, 28). This undermines his claim that such explanation has no place in social science.

Cohen suggests two sorts of "evolutionary" accounts as a basis for functionally explaining a social practice or institution without giving the mechanisms (1986, 229–232). The first, analogous to natural selection, is roughly that the social environment favors the survival of institutions and practices which produce benefits for powerful groups. If religion promotes acquiescence to domination, dominant groups will be more likely to survive in social environments which produce religion. Marx (1976, 100–102) endorses the Darwinian analogy, unfortunately without elaboration.

The second is analogous to Lamarckianism: Beneficial practices or institutions, once intentionally "acquired", are culturally preserved because of those benefits. Fisk's functional explanation is Lamarckian. If welfare exists because dominant groups foresee that it enhances social stability, the explanation is functional and intentional.

Appeal to evolutionary mechanisms fits nicely with mechanical and poorly with nomological explanation. On the one hand, whether evolutionary biological laws of any precision and predictive power exist is controversial (Smart 1968, 91–106). In biology, evolutionary explanations typically take the form of narrative Darwinian histories instead of appeal to laws. The generalizations biologists employ seem more like pieces of natural history than deterministic, exceptionless, and predictive laws. Some philosophers try to fit evolutionary theory into the D-N mold (e.g., Rosenberg 1985), but, Mayr (1982, 37) notes, biologists are little influenced by such considerations. Population genetics involves statistical laws, but under empirical interpretation these are riddled with exceptions and ceteris paribus clauses. Even if evolutionary laws exist, the nonnomological narratives of evolutionary theory retain their explanatory force. Whether any strict social laws exist is doubtful, but narrative elucidation of mechanisms is no less explanatory here than in biology.

On the other hand, natural selection is a paradigm of mechanical explanation. The existence, persistence, and character of randomly generated heritable traits in a population (random generation is dropped in Lamarckian explanation) is explained by some organisms' luck in having traits that are adaptive to particular environments; as the environment shifts, organisms with other traits benefit. The environment operates as a filter mechanism which screens traits. In the social case the traits are features of institutions and practices, and the environment includes social constraints that pass social "organisms" with beneficial traits and block ones without such traits. The foregoing is crudely put: Not all biological or social traits are optimally adaptive even given the history which produced them, and changed circumstances may make once adaptive traits nonadaptive. But crude is good enough for my point, that this is nonnomological mechanical explanation.

Note further that if we can fill in the mechanical story we do not eliminate explanatory reference to beneficial consequences. Traits pass the filter *because* they are beneficial, which selects for just such traits. (Neutral traits too will pass the filter, but are not selected for.) Moreover, *pace* Cohen, the explanation requires reference to the *beneficiality* of the consequences. Their merely being consequences is insufficient to give them explanatory force.

(i) The Objection from Equilibrium. Elster objects to this sort of "social Darwinism" for two reasons. First, "the analogy between social and biological phenomena breaks down. . . . In societies . . . the environment to which institutions adapt themselves generally change so rapidly, relative to the speed of adaptation, that an equilibrium is rarely attained" (1986, 203). But social change is often slow and biological change is often rapid. Dark-winged moths flourished suddenly with the rapid rise of the "dark, Satanic mills". Moreover, Lamarckianism is false for biology but *true* for society, where acquired adaptations are culturally inherited. This can pace rapid social change in the social environment in a way that merely biological organisms could only envy as they wait for suitable mutations.

Furthermore, attainment of equilibrium in the sense of a *stable* state is unnecessary for functional explanation of the *existence or character* of the phenomena. In both the biological and social domains, disequilibrium reigns. The camouflage function of melanism may explain why the proportion of dark-winged moths is rising with pollution without the pro-

portion being stable. Equilibration enters here only as a tendency toward a counterfactual state of affairs.

Actual equilibrium may explain the *persistence* of the explananda; but if the phenomena persist, the rapidity of change is ipso facto not a problem. If actual equilibrium is taken in Elster's (1984, 6) sense as invoking *ideal* functionality—that is, given a certain environment, no change would benefit a system more—this imposes an excessive Panglossian adaptivism on functional explanation. As noted in 2.1, both organisms and societies must adapt with the imperfect variations they get. Were better ones available, they would propagate, meaning that the system is in disequilibrium in Elster's stipulated sense.

(ii) How Pervasive are Valid Functional Explanations? Elster's second objection to social evolutionary explanation is that the only successful example of functional explanation of this sort is market selection of firms for profit-maximization (beneficial effect *Y*); those firms survive whose decision making (practice *X*) is profit-maximizing (1984, 28–33). Part of his difficulty in locating cases of functional explanation is due to his insistence on **E3** and **E4**, that *Y* be unintended and unrecognized. Explanations dropping **E4** he calls "filter" explanations. But given our strictures against **E3** and **E4**, since the functionality of *Y* plays an explanatory role in filter accounts, we may say that these are functional explanations.

Moreover, explanations which satisfy the full set of conditions are more common than Elster allows, particularly in capitalism, where market mechanisms rule. Markets select for other things than profitability. One elaborate example, with microfoundations provided in scores of cases, is Chomsky and Herman's (1988) "Propaganda Model" of the media. This invokes market factors such as the concentrated private ownership of the media, the lower costs of state and corporate news sources, and the lower risks of nonconfrontational reporting to elucidate the mechanisms whereby news convenient to dominant groups tends to be selected. In this example, *X* is the corporate structure of the media and *Y* its (claimed) conservative bias, which helps explain *X* by underwriting acquiescence to it and to capitalism in general.

The generalizability of functional explanation requires that markets not be the only selection mechanisms: Military competition, state repression, and differential institutional support for certain behaviors may select for institutions and practices functional for an environment. The solidarity promoted by extended-kinship links in the Mafia may explain why nonmarket "Family" values persist in market societies and why the Mafia succeeded against criminal associations which lack such solidarity in an environment of state repression and quasi-military competition. Thus a functional explanation of *omerta*.

3. Methodological Individualism and Rational Choice Theory. We might suppose that the difference between Elster and Cohen concerns whether we must state the mechanisms in functional explanation. But Elster wants to *drop* functional explanation and *replace* it with causal-intentional explanations using rational choice theory. With this, we derive social outcomes from assumptions about the behavior of individually rational, utility-maximizing agents and some mathematical apparatus. Since nothing in the foregoing would warrant such a move, why does he propose this?

Elster's reason is that rational choice theory respects and functional explanation (typically) violates the principle of methodological individualism, or so he claims. Our concern is not the truth of this principle but its bearing on the validity of functional explanation. I argue that on the only sensible reading, it has none. Elster reads the principle to say:

> [A]ll social phenomena . . . are in principle explicable in ways that only involve individuals—their properties, their goals, their beliefs, and their actions. To go from social institutions and aggregate patterns of behavior to individuals is the same kind of operation as going from cells to molecules. (1985, 5)

Elster contrasts this with the "converse" principle of methodological collectivism, "closely related" (ibid., 4) to functional explanation. As he initially formulates it, this says "that there are supra-individual entities that are prior to individuals in the explanatory order" (ibid., 6). Priority means explanatory asymmetry: *y* is explicable in terms of *x*, but not vice versa. For methodological individualism, we can explain group entities or properties individualistically, but not vice versa. It also claims exhaustiveness: The individualistic explanans accounts for its collective explananda without remainder.

What are "individualistic terms"? For Elster they must include relations among individuals, since game theory, with its appeal to strategic behavior motivated by beliefs about the behavior of others, is for him paradigmatic of methodological individualism. If we build thick descriptions of social relations into relations of individuals, however, we either blur the line between individualism and collectivism or recreate the problem of whether relations thickly described can be explained in narrowly individualistic terms. It would serve me if methodological individualism were incoherent. But suppose that specifying what counts as "individualistic terms" is possible. Still, methodological individualism cannot support an attack on functional explanation.

Despite intermittent methodological individualism, Elster says, Marxists are often guilty of methodological collectivism. Their explanations often refer essentially to group properties of collective entities. To explain

religion or welfare by their contribution to social stability commits us to such supra-individual entities as churches, welfare bureaucracies, and classes and to social properties such as class conflict and social stability. But if methodological individualism is true, no such explanatorily prior collective entities or properties exist; reference to these must be "reduc[ible] to complex statements about the actions taken by individual[s]" (ibid., 6). Such reference is "only *faute de mieux*" (ibid.), for want of something better. Functional explanation which commits methodological collectivism is therefore not really explanatory.

Elster's argument depends on denying that there are group entities and properties prior to individuals in the explanatory order. Otherwise functional explanation which relies on methodological collectivism is innocent. But first, the argument relies on a false dichotomy. Second, Elster confuses reduction of social properties and entities with their *elimination* in favor of individuals and their properties. The latter is implausible, but the former will not support the claim that methodological individualism rules out functional explanation.

3.1. A False Dichotomy. Elster's argument for methodological individualism is a disjunctive syllogism: The only alternative is methodological collectivism, which countenances the existence of collective agents as *collective subjects* capable of intentionality. But no collective subjects exist, so methodological collectivism is false. Thus we are committed to methodological individualism. That Elster accepts this dichotomy is suggested by his move from characterizing methodological collectivism as the view that there are "supra-individual *entities*" to his critique of Marx for assuming that there are supra-individual *subjects*, " 'Capital' and 'Humanity' both appear [in Marx] as collective subjects that are somehow prior in the explanatory order to their individual components" (1986, 206; vide 1985, 7). But the former view does not imply the latter and is indeed not implausible.

Marx rejects the methodological collectivism Elster attributes to him. He criticizes the Hegelian view that history "is a person apart, a metaphysical subject of which real human individuals are but the bearers" (1975– , vol. 4, 79). He does think that there are "suprahuman *entities* that are prior to individuals in the explanatory order" (Elster 1985, 6), such as the state, classes, and the capitalist mode of production. "The essence of man is no abstraction inherent in each single individual. In reality it is the ensemble of the social relations" (Marx and Engels 1975–, vol. 5, 4).

This does not commit him to making History, Capital, or the Proletariat "persons apart". Not all such entities are subjects or even agents. First, as Wright, Levine, and Sober (1987) argue, impersonal social *structures* may exist which, though not capable of agency, nonetheless constrain the actions of individuals and interact in virtue of social properties. "Structure" includes institutions, practices, and social properties. The existence of a social property, for example, employment, constitutes a structure—here, the institution of wage labor.

To deny methodological individualism we need only be committed to social structures prior to individuals in the order of explanation, that is, which explain properties and behaviors of individuals but which cannot be explained individualistically. Wright, Levine, and Sober call this "antireductionism" (1987, 75–78), and Marx clearly holds it. In *Capital* (1976), Marx says, "Individuals are dealt with only insofar as they are the personifications of economic categories, the bearers of particular class relations and class interests" (p. 92). Thus we might say that there is, irreducibly, such a thing as the capitalist mode of production, a set of class relations, which constrains choices available to individuals qua workers or capitalists, and enters into functional and other explanatory relations with other such structures, such as the bourgeois state.

Antireductionism does not mean that a mode of production or a kind of state is something over and against any individuals who occupy positions in it, any more than a cell is anything over and against the molecules which compose it. It means only that the structures cannot be explained without remainder in individual terms and that at least for some important social phenomena the explanatory asymmetry runs from the social to the individual level.

Second, there might be irreducibly collective *agents*—for example, classes or states. This is an antireductionism beyond Wright, Levine, and Sober's, but Marx appears to accept it in treating classes and states as social actors. Elster regards the idea of collective agency without a subject as an absurd "objective teleology" (1989b, 50), but what is wrong with it is not evident. Some things only a group can do. A union can strike; that is not the same as several people quitting work. A war is a militarized conflict involving states, not just an aggregate of individual acts of violence. Denying the possibility of group agency without collective intentionality leaves us at a loss to explain the difference between what individuals do as members of groups and what they do simply as individuals.

Collective agents are not subjects with their own beliefs and desires. Reference to action need not imply intentional explanation at the level of the actor, although there must be individual intentionality somewhere in the loop. A group acts in that the intentional behavior of its members qua members of that group brings about some intended collective result. Even then the actions of the individuals may not fully explain group behavior. As Elster admits, collective action is an outstanding unsolved problem of rational choice theory (1985, 6; 344–370). In Elster (1989a), he reluc-

tantly grants that social explanation requires appeal to group norms which escape rational-choice explanation. The actions of groups must involve those of the individuals composing them, but these may act as members of groups that have causal powers, for example, to strike or fight wars, that individuals, even in aggregate, do not. The actions of individuals count as striking or warfare only by virtue of their membership in the appropriate sort of groups. A methodological individualist reduction goes through only if we can explain these groups, their powers and properties, in austerely individual terms, whatever those might be.

I have not argued *for* antireductionism about social structures or agents. My point is just that these possibilities show that Elster's case for methodological individualism rests on a false dichotomy. If the choices are methodological collectivism, read as countenancing suprahuman persons, or methodological individualism, the latter is irresistible. But there is a range of plausible nonindividualist alternatives.

3.2. Methodological Individualism as Reductionism. Marx rejects methodological individualism and embraces antireductionism and functional explanation. Elster goes the other way. But are these mutually exclusive alternatives? The question concerns the validity of the argument from the claim that there are no irreducible group entities and properties prior to individuals in the explanatory order to the bankruptcy of functional explanations which essentially advert to group entities and properties. Even if no *irreducible* group entities or properties exist, however, there may be *reducible* ones which can play explanatory roles. Suppose that there are no explanatorily prior group entities and properties because all group phenomena are explicable without remainder in individualistic terms and not vice versa. That does not mean that there are no group entities *period* which have such roles. It means just that there are none which are explanatorily prior.

Elster describes methodological individualism as a "reductionist" theory, but to rule out functional explanation on its basis, he must say that there are *no* group entities or properties, an eliminative claim, or at least no *explanatory* ones, an epiphenomenal one; that is, he must read methodological individualism to say not that

> **(MI1)** all social phenomena . . . are in principle explicable in ways that only involve individuals and their properties,

(as Elster himself presents it) but that

> **(MI2)** all social phenomena . . . are in principle *only* explicable in ways that only involve individuals and their properties.

MI2, but not **MI1**, rules out explanatory appeal to supra-individual entities and properties.

Reduction is a conservative relation. A reduction of a social property or entity would show *what it is*, not *that it is not*. With reduction, no replacement is in order (Schwartz 1991). We do not replace water with H_2O, cells with molecules. On the D-N account, the laws of the reduced theory have counterparts in the reducing theory and the terms of the former are coextensive with terms of the latter. But such correlations cannot be grounds for denying that the terms of the reduced theory refer. Suppose we take the coextensions of the terms as evidence for the identity of their referents: If they refer to the same thing, talk of replacement is incoherent. If we construe reduction in terms of mechanical explanation, we may say that the reduction shows that the micromechanisms constitute the entities or processes described by the macrotheory. Providing a mechanism would then just *be* the reduction. If so, there is no elimination. If y is what x is made of, it is nonsense to say that there are no x's, just y's.

Marxist functional explanation might be *consistent* with **MI1** if its collectivities and properties could be in some sense reduced to or exhaustively explained in terms of individuals and their properties. But even if groups and group properties could be individualistically explained, they might also be explained in terms of social entities and properties. Explanations of cellular behavior (this muscle cell contracting) by other cellular behavior (that nerve cell firing) are not undermined by specifying the molecular mechanisms which constitute that behavior. Likewise with functional explanations of cellular behavior. Phototropism occurs in virtue of mechanical (chemical, physical) features of plants, but this does not undermine the functional explanation that it occurs because it promotes plant growth.

Elster (1985) writes at one point that functional explanation "may be compatible" (pp. 6–7) with methodological individualism "if one insists on the necessary existence of some underlying mechanism" (n. 7) as he says Cohen does.[2] If this is his considered view, I here attack a straw man, but his general strictures against functional explanation fall through. What is left is a sensible but unexciting warning against fallacious functionalizing.

I do not think the modest view is Elster's—though it should be—otherwise, it is hard to understand his claims that specifying a mechanism abolishes explanatory reference to function or that functional explanations referring to group properties or entities are only *faute de mieux*, and his

[2]Even if providing a constitutive mechanism counts as reduction, the reduction, even if it refers to individuals, may describe them in essentially social terms; it would be individualistic only if a further reduction were given.

contrast of methodological individualism with functional explanation. Why should explanatory appeal to social entities or properties, including functions, be "failing something better" because there may exist an individualistic explanation? Are cellular explanations merely "for the want of" molecular ones? What underwrites these Elsterian claims is **MI2**, that only reference to individuals and their properties is genuinely explanatory.

3.3. Methodological Individualism as Eliminativism. The view about social entities and properties under consideration is tantamount to an eliminativism about the social analogous to Dennett's psychological (and functional) instrumentalism. For Dennett the cash value of the intentional and functional "stances" is in the "design stance" (1978, 12, 15–16) where we state the physiological account of how bodily movements are produced. For Elster, the individualistic mechanisms that produce social outcomes exhaust the explanatory content of a social theory. The cash value of talk of social groups or phenomena which are functional for them is the microexplanation. His metaphysical objection to nonindividualistic explanation is based on rejecting collective entities and properties. He overlooks the possibility of group agents or structures, so the only alternative to individualism he sees is the reification of collective subjects. But this is a false dichotomy, so the argument for social eliminativism fails.

Moreover, social eliminativism is implausible, as can be seen from Elster's claim that "to go from social institutions and aggregate patterns of behavior to individuals is the same kind of operation as going from cells to molecules" (1985, 5). On the eliminativist reading, this implies that there are no cells; cell-talk is a manner of speaking, a "stance" we take toward molecules. And what of molecules and atoms? Or atoms and their constituents? Can Elster stop the slide to the claim that nothing exists or is explanatory but point masses in spacetime? Elster mentions Davidson's case for the irreducibility of the intentional (1984, 1), but this will not save cells or molecules unless, like Davidson (1980, 246), we proliferate irreducibilities. If Davidson is right, explanatory generalizations in social science are impossible (ibid., 230, 239), a result any Marxist should be reluctant to countenance. Or Elster might accept an epiphenomenal reading on which social groups and properties exist but have no explanatory power. The analogous view is implausible for cells. Neuron firings *do* cause muscle contractions.

We can read the analogy the other way and accept that there exist cells with causal powers, and that their behavior can be at least in part explained by their constituent molecules. If so, we should reject **MI2** and its denial of explanatory social entities and properties. We should say that

groups are composed of individuals, as cells are of molecules, but that they exist and have explanatory group properties. Whether they can be individualistically explained (not explained away), as **MI1** claims, is an open question, but not our concern here.

Cummins's (1984) notion of "functional analysis" may be helpful. It makes no reference to explaining phenomena in terms of their consequences, but its treatment of mechanisms is relevant. A functional system, in this sense, is an abstractly described system of relations for transforming inputs into outputs. What we abstract from is the detailed mechanical story about how the behavior in question is produced. To call a certain structure of tubes a carburetor identifies it functionally as something which mixes gasoline and oxygen for fuel. We may not know or care how a given carburetor does this. Likewise, to say that welfare or religion can be explained by their benefits for powerful social groups identifies their functional role in class society. We may not know or care how they produce these benefits, although to have confidence in the explanation, we must know that a mechanism exists.

The resulting functional description may allow us to locate regularities (causal or functional in Cohen's sense) within and among such systems. If there is independent evidence of mechanisms, the regularities may be evidence of powers of these systems described at the abstract functional level. If the powers of a system are not explicable in terms of its microproperties,[3] antireductionism is true of that system. If they are, reductionism, but not eliminativism, is true of it. In neither case need we deny the reality or the explanatory power of the macroscopic entities or properties.

4. Individualism as a Substantive Thesis. Individualism might be true as a *substantive* thesis and a correct social theory may not use functional explanation. That outcome would be empirical; if it occurred, functional explanation would drop away not because it violated methodological individualism but because the better theory did not use it. Elster thinks rational-choice explanations are better than any functional alternatives. To make this out, Rational Choice Marxists must show that their explanations are in general superior—more predictive, simple, unifying, wide in scope, and so on.

This is a *substantive* claim. Elster offers the methodological argument that rational-choice explanations allow us "to demonstrate as theorems what would otherwise be unsubstantiated postulates" (1985, 7). This does

[3] If the microproperties include relational properties, how can it fail to be true that the powers of a system are explicable in terms of its microproperties? But how good a defense of reductionist individualism can be given along these lines is not clear and the defensibility of reductionism is not my topic here.

not support methodological individualism, *pace* Elster, because a methodological individualist theory need not be rational-choice theoretic, and it is a weak argument for rational choice theory. First, the postulates of a functional explanation need not be "unsubstantiated" if it is reasonable to posit the feedback loop. Second, for mechanical explanation, such theorems are of explanatory interest only if the postulates of rational choice theory are realistic. This is doubtful. Elster's (1983, 1984, 1989d) best work is in failures of rationality. I do not take up the matter here. I merely note that without the substantive assumption the theorems are merely interesting mathematics.

Why would rational-choice explanations be alternatives rather than supplements to functional explanation? If we say with Fisk that an intentional component may underwrite functionality, they need not be. Rational choice theory may explain why agents favor institutions and practices that benefit them. Elster's functional explanation of profit-maximization in a market shows that we need not even admit intentionality. In other cases, rational-choice explanations might reveal how unintended collective consequences merely result from individually rational action. In invisible hand cases, efficient or Pareto-optimal outcomes are functional but nonexplanatory consequences of aggregate behavior, the benefits of which for all do not explain the actions of each. In invisible foot cases (e.g., collective action problems) aggregate behavior produces dysfunctional, suboptimal consequences. "Rational Choice Marxism" is roughly the view that important social phenomena have Marxist explanations on this nonfunctional pattern.

The substantive argument for rational choice over functional explanation depends on consideration of particular cases, which is beyond my scope here. I think it is too early to decide between them. My own boring suspicion is that both will be fruitful. Rational Choice Marxists should by all means produce explanations which compete with functionalist accounts. Let a hundred flowers bloom! Rational choice and methodological individualist research programs are worth pursuing. But to hold methodological individualism as an a priori constraint on social explanation is to legislate for science. This is not methodological but *metaphysical* individualism.

5. Microfoundations in Social Explanation. I conclude with some remarks on the relations among microfoundations in social explanation, methodological individualism, and rational choice theory. Rational Choice Marxists present these as a package: Rational choice theory provides methodological individualist microfoundations for social explanation. This package is often regarded as the differentia of Analytical Marxism among the varieties of social theory. Our discussion shows that these doctrines

are distinct and independent. Rational Choice Marxism is only one variety of Analytical Marxism.

Social *microfoundations* are accounts of the causal mechanisms in virtue of which macrosocial patterns hold. These mechanisms may operate at the level of individuals (and always operate through individuals) or lower-level groups than the ones explained—thus one may explain state behavior by the interaction of its bureaucratic components. Microfoundations help us to avoid fallacious functionalizing and the related errors of reading individual and group behavior from attributions of group interest and individual interests from group ones. The demand for microfoundations is underwritten by a mechanical conception of explanation. If to explain is to put in the nuts and bolts, to open up the black box, not just to subsume events under laws, microexplanation is an essential component of explanation.

Methodological individualism—**MI1**, the credible version—is a strong microfoundations claim that a certain sort of microexplanation is always available. It is to be distinguished from **MI2**, which holds, implausibly, that the only legitimate form of social explanation is microexplanation at the individual level. We may recognize the need for microfoundations without accepting even **MI1**. Antireductionism is consistent with giving microexplanations as far as they will go. The black box, however, may contain irreducibly social nuts and bolts.

Neither **MI1** nor a commitment to microfoundations commits us to *rational choice theory* unless this correctly describes the mechanisms at the microlevel, a questionable claim. Rational choice theory is just one way, perhaps not the best, of providing microfoundations. While it provides useful insights and explanatory tools to complement and sometimes supplant functional ones, its consistency with methodological individualism is beside the point if what we want is microfoundations. We may, at any rate, use rational choice theory without accepting methodological individualism, so antireductionists should not pass it up where it may serve. Neither rational choice theory nor methodological individualism are required by a microfoundational perspective and both are consistent with a sophisticated use of functional explanation. Reports of the death of functional explanation, like reports of the death of Marxism itself, are greatly exaggerated.

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