from tradesmen's juntos to the court of Versailles, good men working together could improve the condition of humankind.

See also Aristotelianism; Condorcet, Marquis de; Deism; Home, Henry; La Rochefoucauld, Duc François de; Price, Richard; Voltaire, François-Marie Arouet de.

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FREEDOM

In the history of philosophical and social thought "freedom" has a specific use as a moral and a social concept to refer either to circumstances that arise in the relations of man to man or to specific conditions of social life. Even when so restricted, important differences of usage are possible, and most of the political or philosophical argument about the meaning or the nature of freedom is concerned with the legitimacy or convenience of particular applications of the term.

ABSENCE OF CONSTRAINT OR COERCION

It is best to start from a conception of freedom that has been central in the tradition of European individualism and liberalism. According to this conception, freedom refers primarily to a condition characterized by the absence of coercion or constraint imposed by another person; a man is said to be free to the extent that he can choose his own goals or course of conduct, can choose between alternatives available to him, and is not compelled to act as he would not himself choose to act, or prevented from acting as he would otherwise choose to act, by the will of another man, of the state, or of any other authority. Freedom in the sense of not being coerced or constrained by another is sometimes called negative freedom (or "freedom from"); it refers to an area of conduct within which each man chooses his own course and is protected from compulsion or restraint. J. S. Mill's essay On Liberty is perhaps the best-known expression in English of this individualistic and liberal conception of freedom.

Some writers take the view that the absence of coercion is the sufficient and necessary condition for defining freedom; so long as a man acts of his own volition and is not coerced in what he does, he is free. Other writers wish to widen the concept in one or both of two ways. They argue that natural conditions, and not only the will or the power of other men, impose obstructions and restraints on our capacity to choose between alternatives and that therefore the growth of knowledge or anything else that increases our capacity to employ natural conditions for the achievement of our purposes ipso facto enlarges our freedom. They also sometimes argue that whether or not it is the will of other men or natural obstacles that are considered as limiting or constraining our actions, we cannot truly be said to be free to choose some preferred alternative unless we have the means or the power to achieve it, and thus the absence of means or power to do *X* is equivalent to absence of freedom to do it. For those who take this view the necessary conditions for the existence of freedom would be (a) the absence of human coercion or restraint preventing one from choosing alternatives he would wish to choose; (b) the absence of natural conditions preventing one from achieving a chosen objective; (c) the possession of the means or the power to achieve the objective one chooses of one's own volition. Many of the assertions frequently made about liberty in

recent political thought assume that possession of the means or power to realize preferred objectives is part of what it means to be free. For example, the contention that men who suffer from poverty or have a low level of education cannot really be free, or that they cannot be as free as the well-to-do and the well educated, relies on the assumption that "to be free to do X" includes within its meaning "to be able," "to have the means," and "to have the power" to do X.

What are the objections to thus connecting "being free to" with "having the capacity or the power to"? It can be said that, at least in many cases, equating freedom with possession of power will involve a distortion of ordinary language. If I ask, "Am I free to walk into the Pentagon?" the question will be clearly understood; but if I ask, "Am I free to walk across the Atlantic Ocean?" the appropriate answer will be "You are free to, if you can." This suggests the main argument: The linking of "being free to" with "having the capacity or power" deprives the word free of its essential and unequivocal function, which is to refer to a situation or state of affairs in which a man's choice of how he acts is not deliberately forced or restrained by another man. As Bertrand de Jouvenel points out, if we say that to be free to achieve chosen ends requires the possession of the power and the social means necessary for their achievement, then the problem of freedom coincides with (or becomes confused with) the quite different problem of how satisfactions are to be maximized. It may be true to say that the poor man is as free to spend his holidays in Monte Carlo as the rich man is, and true also to say that he cannot afford to do so. These two statements, it is argued, refer to two distinct states of affairs, and nothing is gained by amalgamating them.

MEANING OF "COERCION"

Even if we confine ourselves to saying that a man is free insofar as his action is not coerced by another, it is evident that the concept of coercion itself requires some consideration. An important point may be made by examining Bertrand Russell's often-quoted sentence: "Freedom in general may be defined as the absence of obstacles to the realization of desires." This hardly goes far enough. Let us imagine an authoritarian society in which rulers have for years been so successful in controlling and manipulating what members of the community read and what views they encounter, and in which the educators have been able so subtly and skillfully to mold the minds and dispositions of the very young, that almost all citizens naturally desire what their rulers desire them to desire, without its ever occurring to them that there are alternatives to what

they are accustomed to or that their freedom to choose has been in any way circumscribed. They are not conscious of any obstructions to the satisfaction of desire and, indeed, no obstructions may exist to the satisfaction of any desires they experience. This is a limiting case, but it points to conditions that exist more or less in all societies. We would scarcely concede that the members of such a society enjoyed any or much freedom. The society described may be one in which coercion in the usual sense does not occur and has in fact become unnecessary.

Two important points follow from this. First, if absence of coercion is a necessary condition of being free, coercion must be understood as including not only the direct forms-commands or prohibitions backed by sanctions or superior power—but also the many indirect forms-molding and manipulation or, more generally, forms of control that are indirect because they involve control by certain persons of the conditions that determine or affect the alternatives available to others. This is an important extension of the notion of coercion. Second, if liberty means the right of individual choice between alternatives, then this right in turn implies that the alternatives can be known by those who are to choose; that individuals have the opportunity to understand the character of available alternatives and can make a deliberate or informed choice. The freedom that members of a society enjoy will be connected, therefore, with the extent to which competing opinions, objectives, modes of behavior, ways of living, and so on are, so to speak, on display; on how freely they can be recommended, criticized and examined; and thus on the ease with which men can make a deliberate choice between them.

For this reason, since literacy or education enlarges the capacity or faculty of choice and decision, it is an important precondition of the existence of freedom: knowledge extends the capacity for acting freely. Similarly, not only suppression but also distortion and misrepresentation, any kind of dishonest propaganda that gains its effect from privileged control over sources of publicity, may restrict the freedom of others; insofar as it succeeds in concealing or misrepresenting the character of certain of the available alternatives, it will tend to restrict or manipulate the range of choice no less effectively than direct coercion or constraint may; and thus it will also tend to limit the exercise of freedom in a particular society. It is not sufficient to consider only the presence or absence of coercion in the more literal and direct sense. Freedom in its positive aspect is the activity or process of choosing for oneself and acting on one's own initiative, and choice can be manipulated as readily as it can be coerced.

Does it follow from this that the extent of freedom is related to the number of available alternatives, in that the more alternatives there are for choice, the freer a man is? Clearly there can be no simple or direct relationship between the range of available alternatives and the extent of freedom. However numerous the alternatives between which a man may choose, he will not admit himself to be free if the one alternative that he would most prefer is the one that is excluded. In a society that forbids the preaching of Catholic doctrine and the practice of Catholic forms of worship, Catholics will not concede that they are free just because they are still free to be either Anglicans, Methodists, or Buddhists. In certain circumstances the extent of the range of available alternatives may be relevant to a judgment of the extent of freedom; but in general we can talk profitably about both the existence and the extent of freedom in a particular society only by taking into account the individual and social interests, the capacities, the modes of behavior, and the ways of living on behalf of which freedom is claimed.

KINDS OF FREEDOM

When men speak of their being free or claim freedom for themselves, they are referring not only to the absence of coercion and restraint imposed by others (freedom *from*) but also to that on behalf of which freedom is being claimed (what they are claiming freedom for). This is another sense in which we can speak about a positive aspect of freedom. In political and social discussion a claim to freedom is almost invariably (albeit usually implicitly) a claim to a particular liberty, a claim to freedom for or in the exercise of some particular interest or form of activity. Although Russell says that freedom is the absence of obstacles to the satisfaction of desire, probably no serious philosophical or social thinker has defended freedom in the sense of absence of obstacles to the satisfaction of any desire; what has been defended, and what freedom has been identified with, is the absence of obstacles to the exercise and satisfaction of specific interests and forms of activity that are accepted as possessing special moral and social significance.

Thus, freedom in the abstract is a class comprising many species—freedom of thought and speech, freedom of association, freedom of assembly, freedom of worship, freedom of movement, freedom in the use or disposal of one's property, freedom in the choice of one's employer or occupation, and so on. In every case there is, of course, a reference to the absence of coercion or interference and

to an area within which one can choose or act on one's own initiative; not to an abstract or indeterminate possibility of choosing but instead to a specific sphere of individual or social activity within which the right to make one's own choices and decisions, to follow one's own course, is regarded as being of particular importance in the moral life of the individual. This seems to be one way in which positive notions of freedom (as contrasted with the more abstract idea of bare immunity from coercion or interference by others) have emerged, namely, in the attempt to identify (and thus to identify with freedom) those specific spheres of human activity within which what Mill calls individuality, the right and capacity for individual choice and initiative, really matter.

Some of the particular freedoms that have been much emphasized in recent times (freedom from want and freedom from fear are important examples) seem at first sight to refer neither to the absence of coercion nor to any specific interest or form of activity for which freedom is being claimed. It might appear that what is being claimed is, rather, the institution of political and economic arrangements by means of which men may be made immune from feelings and circumstances that they find to be evil. If this is all that is meant, then this is to employ freedom in a sense different from the one we have been discussing; this is shown by the fact that freedom from want and fear could conceivably be attained by the setting up of political and social arrangements under which the amplitude of choice within important spheres of activity would be drastically restricted and under which there might be a considerable measure of coercion and constraint; in other words, freedom from want and freedom from fear might well be compatible with a very authoritarian regime, just as in contemporary China freedom from flies is said to have been achieved by very authoritarian methods. Thus, if "freedom from want" and "freedom from fear" are taken simply in that way, the freedom involved is logically and socially distinct from that which has so far been taken as being central and fundamental in the tradition of liberal thinking. However, this may be to interpret these two freedoms superficially. For a more sympathetic interpretation we must return to what has been said about manipulation.

FREEDOM AND POWER

In modern societies manipulation in various forms is at least as important as the processes we normally identify as coercive. It is well known that, within a society, a group of men may enjoy such control over property or the means of production, or over an educational system or

the media of communication, that they are able to determine within a fairly narrow range the alternatives between which their fellow citizens can choose. It is not only true that less privileged men often lack the means or the power to attain their preferred alternative but also that others can exploit their lack of power in order to prevent them from attaining what they would wish to attain; sometimes the less powerful can even be prevented from knowing what alternatives there are and from knowing that some of them might be capable or worthy of being pursued. It is this argument that can justify notions like "freedom from want" or "freedom from economic insecurity" and that links them with what has been taken to be the central sense of freedom, the absence of constraint. Even though we refuse to conclude that the mere absence of the means or the power to attain a preferred alternative goal is equivalent to not being free to pursue it, it is a different situation when means and power are controlled and manipulated by others in order to secure compliance with their demands. Thus, if "want" and "insecurity" describe a condition in which there is unequal control over the means and conditions of choice and action, in consequence of which some men can manipulate the range of choice available to others, then freedom from want and insecurity belongs with freedom from coercion; in that case, freedom from want and insecurity is the condition of the ability to act on one's own initiative, which is the positive side of liberty.

There is, then, this connection between freedom and power: When there is conflict between individuals and groups for possession or control of scarce means and conditions of action, control over means is a condition of the availability of alternatives, and hence of choice and freedom. It follows, therefore, that when men have unequal power, this will often mean that they will also be unequal with respect to the freedom they enjoy-not merely in the sense that the man who is better off has the means to choose more widely and live more abundantly than his poorer brother (although this is also true) but in the more relevant sense that the more powerful man can restrict the range of choice and the freedom of the less powerful in order to satisfy his own interests more fully. Obviously this relation between inequality of power and inequality of freedom provides one of the connections that exist between liberty and democracy. If we define democracy as being a form of political organization in which all adult members of the community share in making decisions about the common arrangements of the society (including those decisions about the use and distribution of the resources that affect the choices of acting available to men), then the right to participate in the making of these decisions is a liberty that will affect (or at least may very substantially affect) the range and character of the alternatives that are available in very important areas of social and private life.

POLITICAL PARTICIPATION. Thus, we may say that political participation, or sharing in the process of government, will enter into the meaning of "liberty" in society in at least two different ways. First, political activity and participation in government is an interest and mode of activity to which many men attach great importance, and thus the existence of the right and opportunity to engage in this form of activity is one of the liberties that some men cherish highly. Second, it is in addition a liberty that forms part of a wider structure of liberties because the extent to which this liberty is accorded and exercised will usually also affect the extent to which liberty is available in other areas of social life. This is not to say, of course, that the more democratic a society is (the less men are restrained or restricted in their participation in the activity of government), the more freedom there will be in other areas of social life; it is possible for democracies to be exceptionally coercive, restrictive, or intolerant in certain areas of living and, apart from this, it is also true that expansion of particular liberties (or of liberty in particular areas) often entails the curtailment of others. The point is, rather, that political liberty in the sense specified forms part of a more complex system of liberties in any developed society; both logically and causally, political liberty is connected with the liberties that are established in other spheres of individual activity.

FREEDOM AND CHOICE

We have seen that liberty has its negative and its positive sides—"negative" referring to the absence of obstructions, interference, coercion, or indirect control; "positive," to the processes of choosing and acting on one's own initiative, and more concretely and less formally to the general types of human interests or forms of activity for the expression and exercise of which liberty is claimed. Some writers, concentrating particularly on the positive aspect, have been inclined to assert that a man is being free only when he is actually choosing, exercising initiative, and acting deliberately or responsibly. Mill, in what he says in On Liberty about "individuality," "individual spontaneity," the "despotism of custom," and related matters, comes very close to asserting this, although he never quite does so. The same kind of view is hinted at in Graham Wallas's "Freedom is the capacity for continuous initiative," but it would be difficult to accept this as a general position. For the devotee of a religious faith, the religious freedom he claims and believes himself to enjoy may be no more than the freedom to practice unmolested a form of worship he has inherited and which he has never felt the faintest temptation to question; in such a case it is a fiction to speak of a process of choice. The same can be said of the man who is content to follow narrowly, uncritically, and unadventurously the established customs and conventions of his society. Even though there may be a sense in which we can intelligibly talk of such men as being slaves to customs, habits, or orthodoxies, it would still be straining the point to maintain that they are not free.

On the other hand, the man who has been so molded and manipulated that he always wants what his ruler or superior wants him to want is scarcely free. This case suggests that freedom will exist only where there exists the possibility of choice, and the possibility of choice in turn implies not only the absence of direct coercion and compulsion but also that the availability and the characteristics of alternatives must be capable of being known. Thus, whatever the situation of any particular individual may be, it is most likely that there will be a large measure of individual freedom within a society when there exists what Mill calls a variety of conditions—where a wide variety of beliefs are in fact expressed and where there is a considerable diversity of tastes and pursuits, customs and codes of conduct, ways and styles of living. And, because of the connection between inequality of power and inequality with respect to the enjoyment of freedom, a society in which power is widely distributed is also likely to be the one characterized by the existence of wide possibilities for choice and individual initiative.

See also Authority; Censorship; Democracy; Determinism and Freedom; Liberalism; Liberty; Mill, John Stuart; Power; Rights; Russell, Bertrand Arthur William.

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FREE WILL

See Determinism and Freedom

FREGE. GOTTLOB

(1848-1925)

LIFE

After studying mathematics, physics, chemistry, and philosophy at the universities of Jena and Göttingen, the German mathematician, logician, and philosopher Gottlob Frege obtained his mathematical doctorate in Göttingen (1873) and his mathematical *habilitation* in Jena (1874). From 1874 to 1879 he taught mathematics at the University of Jena as a lecturer; in 1879 he was promoted to adjunct professor, and in 1896 to associate professor. Frege never obtained a full professorship. He retired from teaching in 1917 because of illness, becoming emeritus in 1918.

While he received little professional recognition during his lifetime, Frege is widely regarded in the early twenty-first century as the greatest logician since Aristotle, one of the most profound philosophers of mathematics of all times, and a principal progenitor of analytic philosophy. His writing exhibits a level of rigor and precision that was not reached by other logicians until well after Frege's death.

MAIN WORKS

In the monograph *Begriffsschrift* (1879) Frege introduces his most powerful technical invention, nowadays known as predicate logic. In his second book, *Die Grundlagen der Arithmetik* (1884), he discusses the philosophical foundations of the notion of number and provides an informal