

drawn that everyone does have beliefs which he regards as valid, and which a pure empiricist would have to regard as invalid, and that therefore there are no pure empiricists. (3) Since any beliefs about matters of fact that we regard as valid must be connected with our own perceptual experiences, and since no statement about a particular event can be derived by demonstrative principles from statements about other particular events, it follows that we must admit non-demonstrative principles of inference which are not derivable from experience. But this point is not fully discussed in the book. It seems clear that for a satisfactory treatment it would be necessary to go into the question of what is the significance of statements containing the word "probable"—which is outside the scope of the book.

For an adequate consideration of the point of view underlying this *Inquiry* it would be necessary to deal with a number of topics I have had to leave undiscussed. The book is full of important discussions: I note, e.g., the account of the psychological states expressed by logical words such as "not", "or", "some" (Ch. V); whether the state of believing *p* can be described without mentioning *p* as a constituent (Ch. XIX); the psychological analysis of the beliefs expressed by general sentences (Ch. XVIII); the construction of a logical language in which all sentences permitted by the rules would be significant sentences (Ch. XIII, C); the principles of extensionality and atomicity (Ch. XIX); the views of Carnap (Ch. XXII), and of Dewey (Ch. XXIII); and the last two chapters regarding the nature of analysis, and the question whether a study of syntax can result in knowledge of the structure of the world. But the book is so full of topics that I could not deal with more than a selection of them without extending this notice unduly. It is likely to be a book from which many discussions will take their source, when such things can once more occupy young men's minds.

L. J. RUSSELL.

Evolutionary Ethics. By JULIAN S. HUXLEY. Oxford University Press, 1943. Pp. 24. 2s.

THIS little book contains the *Romanes Lectures*, delivered in the Sheldonian Theatre on 11th June, 1943, together with 13 pages of notes.

The contents may be divided into the following five main sections. (1) A theory of the development of conscience in the individual from infancy. (2) An account of the chief features of evolution in general. (3) An account of the evolution of moral codes and of their correlation with different stages in the evolution of societies. (4) An attempt to show that objective moral standards can be based on a study of the characteristic features of evolutionary change. (5) A statement of the chief peculiarities of a code of morality based on a study of evolution.

I propose first to state the various parts of the theory as fairly as I can, and then to make some comments and criticisms.

(1) *Development of Conscience in the Individual*. The theory which Prof. Huxley puts forward is based on the speculations of certain psychoanalysts. So far as I can understand it, it may be stated as follows.

At about the second year of its post-natal life a baby begins to draw a distinction between itself and the outer world. At this stage the focal point of the latter for the baby is its mother or any other person, such as its nurse, who has constant charge of it. This individual is recognised by the baby as another *person*, and it views her under two aspects, viz. (i) as a source of satisfaction, peace, and security, and (ii) as an authority who has and exercises the power to thwart certain of its impulses. The baby's cognition of its mother under the former aspect is toned with affection; its cognition of her under the latter is toned with hostility.

Hostile emotion towards the mother, and the associated hostile wishes and actions, become the objects of a new kind of emotion in the baby. To this second-order and reflexive emotion Prof. Huxley gives the name 'feeling of guilt'. Emotions, wishes, and tendencies towards action which are the objects of guilty emotion tend to be either relegated to the background of consciousness or wholly repressed into the unconscious. There they continue to exist and to be the objects of guilty emotion, and thence they continually seek an outlet. Generally they can find one only in disguised forms; but from time to time they emerge more or less openly in the form of rage and violence against the mother.

The process described above is useful to human beings for the following reason. Young children are faced with many kinds of conflict to which other young creatures are not exposed. Owing to their lack of experience they cannot solve them rationally. Now it would be highly detrimental to the development of the individual if the conflicting impulses merely inhibited each other and led to a complete deadlock, or if they just alternated with each other on equal terms leading to endless vacillation. The attachment of a feeling of guilt to some and not to others of the conflicting impulses, and the consequent fairly complete suppression or repression of the former, ensures that these two disadvantages will be avoided.

After the capacity to feel guilty emotion has once been brought into activity over the conflict between love and hate of one's mother that kind of emotion can be directed to one term in *any* conflict of impulses, and it will then lead to the same kind of results in the way of suppression or repression. This, however, is subject to one limitation. Such an extension of the guilty emotion from a person's hostility towards his mother to certain of his other impulses will take place only when the latter are viewed by him in relation to some person or institution for which he feels love or respect. This latter feeling may be either unmixed or blended with other emotions

into some complex sentiment, such as awe, patriotism, self-respect, etc.

Prof. Huxley envisages another way of dealing with conflicting impulses, which becomes available to an individual only when he has acquired adequate experience. This is described as solving such conflicts 'rationally'. It is not clear to me what Prof. Huxley considers this process to be, or how he supposes it to be connected with the 'proto-ethical mechanism' which he has been describing. Does this mechanism merely set the stage and prepare certain of the conditions without which no *persistent* action of any kind, and therefore no deliberately planned action, can take place? Or is there some more detailed connexion between the proto-ethical mechanism and the deliberate subordination and co-ordination of impulses in pursuance of a course of action inspired by moral ideals and limited by moral principles?

(1.1) *Healthy and Unhealthy Development of Conscience.* The processes which have been described above may go on in a 'healthy' way or may be subject to various 'unhealthy' aberrations. In the former case, we are told, 'the feeling of rightness reflects, though in an embryonic form, a morality which is objectively right'. It can then be 'developed by reason and aspiration into a conscience which is indispensable as a moral guide'. In the latter case, however, the patient will develop a conscience which is described as 'distorted and unrealistic'. He may also develop (what is not the same thing) 'distorted and unrealistic' beliefs about the nature of Conscience. It is not clear to me whether these two very different pathological results are held by Prof. Huxley to be invariable concomitants.

(1.11) *Healthy Development.* About the 'realistic' conscience which develops when the process goes on healthily we are given the following information. It is 'normal' and 'healthy' to feel *some* degree of guilty emotion towards one's hatred of those 'whom we must at all costs love'. In particular it is said to be 'perfectly realistic to feel *some* guilt at hating one's beloved mother'.

A distinction is drawn between 'internal' and 'external' realism. The former consists in not feeling excessive guilt and in not compensating for it in certain pathological ways to be described later. It seems to be identified (p. 23) with a satisfactory adjustment between the individual's conscience and the moral standards current in the society in which he lives. But these standards may themselves be 'unrealistic'; and in that case the individual's conscience, if adjusted to them, will lack *external* realism. The latter is said to be relative to (i) the general state of knowledge and belief in a given society at a given time, and (ii) to its 'intellectual and moral climate, and the quality of the human beings who live in it'. Since both these factors gradually change, a set of moral standards which have been externally realistic may, unless they change concomitantly, become unrealistic.

(1.12) *Unhealthy Forms of Development*. The following are said to be typical unhealthy ways of development from the infantile proto-ethical stage :

(i) Instead of, or in addition to, the baby feeling guilty emotions towards its hostility to its mother, it may feel such emotions towards those of its impulses by checking which its mother incurred its hostility. In that case those impulses may be repressed instead of, or in addition to, its feelings of hostility towards its mother.

(ii) The repressed guilt-laden hatred, originally felt towards the mother for checking a certain impulse, may be extended or diverted to that impulse itself. If both the first and the second of these unhealthy developments should take place in an individual, he will feel towards certain of his impulses both a transferred emotion of *guilt* and a transferred emotion of *hatred* which will itself be the object of a guilty feeling.

(iii) Whilst it is 'normal and healthy' and 'perfectly realistic' to feel *some* degree of guilt towards one's hatred of those whom 'one must at all costs love', the degree of guilt felt may be too great. It is then described by Prof. Huxley as 'an excessive load which does not correspond with any reality'. This may lead to a sense of unworthiness and self-hatred which Prof. Huxley describes as 'quite irrational'.

(iv) It is alleged that when the degree of guilt felt is excessive the following further distortions are liable to ensue. (a) Suppose that the inordinate feeling of guilt has arisen through being afflicted with a fussy or domineering parent. Then the patient will be apt to model his dealings with himself on his parent's dealings with him, and thus to develop a finicky and over-severe conscience. (b) Another alternative, which may be either combined with or substituted for the first, is to model one's idea of God on one's early experiences of one's parents. God is then liable to be regarded as a fussy and domineering person, of irresistible power and super-human knowledge, mainly occupied in forbidding one to do what one would like to do. God will then be hated, but the hatred will be the object of a strong guilty feeling and will be largely repressed. (c) A person may get rid of an excessive load of guilt by thinking of himself as the innocent victim of unfortunate circumstances, of wicked and hostile individuals, or of an oppressive society.

(v) When a person's conscience has developed, whether healthily or unhealthily, he will find himself condemning some of his impulses and approving others of them. Now he may not be able to face the fact that he has certain strong impulses of which he strongly disapproves. He may then come to ignore their presence in himself and to imagine them to be present to a marked degree in certain other individuals or classes. His disapproval of such impulses, which prevents him from acknowledging their presence in himself, is then turned upon these other persons, who thus act as scapegoats or whipping-boys. He may then feel it to be his duty to loose upon

them, for their supposed moral defects, those impulses of cruelty and aggression in himself which he would otherwise have disapproved and kept in check.

(1.2) *Inferences from the above Theory of Conscience.* From the psycho-analytic theory of the development of conscience in the individual as he grows up Prof. Huxley draws the following conclusions :

(i) There are no innate moral principles or concepts. What is innate in a child is the tendency to love its mother in respect of most of her dealings with it and to hate her in respect of those of her acts which check its impulses ; the tendency to feel guilty about this hostility and not about this love, and to repress or suppress the former and not the latter ; and the tendency to extend the feeling of guilt to one member of other pairs of conflicting impulses. The kinds of action which eventually come to be regarded as right or wrong depend wholly on the individual's environment and are very largely determined by the influence of his mother. Even the general capacity to develop a conscience of some kind or other will not be fulfilled if the circumstances are unfavourable. It is asserted, *e.g.*, that persons who have had no mother or mother-substitute between the ages of one and three years from birth fail to develop a moral sense of any kind.

(ii) The psycho-analytic theory is alleged to provide an explanation for what Prof. Huxley calls the 'absolute, categorical, and other-worldly quality' of moral obligation. He asserts that this quality becomes attached to moral obligation through the following causes. (a) The fact that thoughts, emotions, and wishes to which the feeling of guilt is attached tend to be repressed into the unconscious, and do not merely take turns on an equal footing with their opposites in occupying consciousness or issuing in overt action. (b) The fact that the occasion on which guilt is first felt is that on which the infant discovers with a shock that there is a world outside himself which is not amenable to his wishes. It is alleged that a baby is originally in a state of 'magic solipsism' ; and that what first awakens it from this is the intrusion of the external world in the form of its mother demanding control over its primitive impulses.

(2) *General Account of Evolution.* The main points in Prof. Huxley's general account of evolution may be summarised as follows :

(i) It is a process of change which is 'creative' in two senses. (a) New and more complex levels of organisation are successively reached. (b) New possibilities for further development are opened up.

(ii) The growth in complexity of organisation is in general gradual, but there are occasional sudden and rapid changes to new and more comprehensive types of organisation. After any such critical point there are new emergent qualities and new methods of further evolution. The two most important critical points known to us are (a) the change from inorganic to living matter, and (b) the change

from pre-human to human life. After each such turning-point the *area* of further evolution tends to be restricted to those creatures which have taken the new turning and their descendants, but the *tempo* of evolution among them tends to be greatly accelerated.

(iii) Living beings are highly complex and unified material systems with the power to produce offspring which predominantly resemble their parents but have variations which may themselves be handed on. At their highest levels living organisms have a very considerable degree of self-regulation, they become to a large extent independent of variations in their environment, and they acquire appreciable powers of controlling it. At this end of the biological scale the presence of a mind something like the human mind is apparent for the first time.

(iv) At the level of life a new method of evolution emerges, *viz.* natural selection between competing variants. This greatly accelerates the process, and it is still further hastened by the development of bi-sexual reproduction with Mendelian recombination of genes.

(v) Purely organic evolution merges into evolution which is social and is to some extent deliberately controlled. This becomes possible when speech and conceptual thinking have developed. Then and not till then the results of experience become transmissible, tradition becomes cumulative, and deliberate training becomes possible. This leads to a new type of organisation, *viz.* that of a self-perpetuating society of conscious individuals, and it becomes possible to take deliberate control of further evolution.

(vi) A line of evolution may be said to be 'progressive' so long as there remains a capacity to reach a higher level of organisation along that line which will not itself cut out the possibility of still further advance. In organic evolution this requires all-round flexibility as opposed to one-sided specialisation. The latter leads to a blind alley, and thereafter only minor variations are possible. Prof. Huxley says that all the main lines of purely organic evolution seem to have ended in such blind alleys a very long time ago. The field of further evolution on earth has now been restricted to one species, *viz.* men; and in them it is social and thought-determined, not blindly biological. But the possible tempo has been enormously increased.

(vii) Prof. Huxley asserts that, after the level of social and thought-determined evolution has been reached, two important new features emerge: (a) Many of the experiences which now become available for the first time have 'intrinsic value'; and (b) it becomes possible to 'introduce faith, courage, love of truth, goodness—moral purpose—into evolution'. (I am not at all sure what Prof. Huxley understands or wishes his readers to understand by either of these statements.)

(3) *Evolution of the Moral Codes of Societies.* The moral standards prevalent in various societies and at various stages of a single society

are roughly correlated with the stage reached by the society in its evolution. But Prof. Huxley mentions, and tries to account for, certain exceptions to this general rule. He says that careful study of a number of primitive communities has shown that there is no close correlation between, *e.g.* the degree of competitiveness or of co-operation enjoined by the moral code of such a community and the prevalence of competition or co-operation in the life of it. Similar facts, he says, have been observed about peaceableness and aggressiveness. It appears that peaceableness may be morally approved in a community which is predominantly aggressive, and aggressiveness in one that is predominantly peaceable.

He tells us that a more detailed study of such facts discloses that all such societies are primitive, small, culturally isolated, and on the same general level of social evolution. Now it is found that small and isolated species of fairly simple plants or animals are liable to develop and propagate variations which are not specially adapted to their circumstances and their mode of life. The reason alleged is that, in the absence of severe competition, random variations have a fair chance of surviving even when they are not useful.

Suppose, however, that we confine our comparisons to communities which are either (i) at quite different levels of culture, or (ii) highly advanced but on very different lines of development. Then, he says, we shall find that there is a high positive association between those types of character and action which are morally approved in a community and those which are favourably relevant to its chief functions.

Prof. Huxley distinguishes the following main levels :

(i) *Pre-agricultural Societies*. Here morality is chiefly concerned with the propitiation of supposed super-natural beings, the harnessing of supposed magical forces, and the solidarity of the group. The principal subjects of moral approval and disapproval are acts and sentiments connected with totem and taboo, and the acts which are approved or disapproved are viewed mainly in the light of their supposed magical efficacy.

(ii) *Early Civilised Societies*. Here the chief subjects of moral approval or disapproval are those which are concerned with class-domination and the rivalries of groups. Moral codes tend to be regarded as expressions of the will of God, and morality is closely connected with religion.

(iii) *Later Civilised Societies*. The most important development here is the appearance for the first time of a set of moral principles which are supposed not to be restricted in their application to the members of a certain community as a whole or to those of a certain group within it, but are held to apply to every human being as such. Prof. Huxley asserts that the first known appearance of such a universalistic moral code was in about 500 B.C. Such a code has generally been thought of as fixed for all time and independent of local and temporal variations in circumstances. Prof. Huxley

thinks that this attitude has been fostered by the uncritical use of certain abstract nouns, such as *The Good*, which are really nothing but 'convenient pigeon-holes for a variety of qualities which have *nothing in common but a certain emotive quality*' (my italics). He also considers that the belief in the immutability of the principles of universalistic morality has been buttressed by regarding them as expressions of the immutable will of God.

In all advanced societies there have been several more or less distinct moral codes which partly conflict and partly support each other. Among these Prof. Huxley enumerates the following: (a) An official code imposed by a ruling class to ensure the stability of their own position; (b) the working code of the ordinary citizen; (c) the codes of certain oppressed classes or minorities, seeking consolation or revolutionary change; (d) a code concerned with securing personal salvation as an escape from inner conflict or outer violence and misery; (e) the code of an 'impossible perfection'; and (f) what he calls 'the true ethics of disciplined and developed goodness and sainthood'. Prof. Huxley alleges that there is nothing common and peculiar to all these except that they are concerned with 'the labels of rightness and wrongness'.

(4) *Evolution as a Clue to an Objective Moral Standard*. Prof. Huxley says that we are left with the following problem: 'How can we be sure that the objects to which our moral sense affixes the labels of felt rightness and wrongness are *in fact* right and wrong?' So far we have been told only of the adaptation of particular moral codes to particular kinds of society. Is there any criterion for judging whether the labels 'right' and 'wrong' are *correctly* attached? Again, have we any right to say that one adaptation or one society is *better* than another? He asserts that a study of the course of evolution provides answers to such questions and enables us to discover 'independent ethical standards' in three different but interconnected regions, *viz.* nature as a whole, human society, and the human individual.

So far as I can see, Prof. Huxley bases his moral code on certain ultimate judgments of value. I will collect at this point his main statements on this topic.

(i) Men find that some of the possibilities which are realisable at the human level of evolution 'have value in and for themselves'.

(ii) Among these they assign a higher value to those which are either (a) 'more intrinsically or permanently satisfying', or (b) 'involve a greater degree of perfection'.

(iii) Those evolutionary trends which are likely to lead to such intrinsically valuable possibilities being realised are judged to be 'the most desirable direction of evolution'.

(iv) It is said to be evident 'on evolutionary grounds' that the individual is 'higher than the state or the social organism'. Again, we are told that 'the rightly developed individual is, and will continue to be, the highest product of evolution'. It is explained that

the phrase 'rightly developed', in this context, is to cover both (a) the full all-round development of a person's powers, and (b) the one-sided development of any special capacity in which he is capable of excelling. Prof. Huxley realises that there may be a conflict between developing a certain talent to the utmost and performing one's ordinary duties towards one's family, colleagues, country, etc. He does not explicitly mention, what is equally obvious, that there may be a conflict between all-round self-development and the cultivation of a particular talent to the highest degree of which it is capable.

The ground which is given for holding that an individual is higher than any social group is that the 'possibilities which are of value for their own sake . . . are not experienced by society as a unit'.

(v) In a group of individuals it is desirable that there should be the maximum of variety that is compatible with the unity of the group as a whole. 'It is not uniformity which our evolutionary analysis shows to be right', says Prof. Huxley, 'but the maximum of variety-in-unity'.

Prof. Huxley's main pronouncements about what is *right* may be summarised as follows :

(i) The most fundamental proposition seems to be that it is right to 'aim at whatever will promote the increasingly full realisation of increasingly high values'.

(ii) There is also a principle of equality. It is right that there should be universal equality of opportunity for development. This is said to follow from the fact that 'the right development of an individual is an evolutionary end in itself'. But there appears to be an independent argument for it which would make it a derivative principle, *viz.* that equality of opportunity leads to the maximum of variety.

(iii) It is right (a) to realise new possibilities in evolution, especially those which are intrinsically valuable ; (b) to respect human individuality and to encourage its further development ; and (c) to construct such a social organisation as will best subserve (a) and (b).

From these principles Prof. Huxley draws the conclusion that the right course at any moment will be a compromise between one which would wholly sacrifice future possibilities of further development to the fullest realisation of existing possibilities and one which would wholly sacrifice the latter to the former. Social organisation should be designed to encourage change in desirable directions, but at any moment there will be an optimum rate of change in those directions.

(5) *Special Features of Evolutionary Ethics.* Prof. Huxley realises that a good many more or less educated persons in England and the United States and the Dominions might be prepared to assent, with minor qualifications, to most of what he has said about the sort of things which have value and the sort of actions which are right. But they might be inclined to ask : Is not this just the ethics of

'Christianised Liberalism'? What has the appeal to evolution done for us?

There would seem to be two different questions here. (i) Has the appeal to evolution provided any reason, which was not already available, for accepting the judgments of value and of obligation enumerated above? (ii) Does it provide us with any new or modified judgments of value or of obligation?

To the first question Prof. Huxley answers that the study of evolution has provided an *inductive basis* for what had already been guessed by religious moralists, viz. a universalistic morality based on the ultimate and intrinsic value of human personality.

In considering the second question Prof. Huxley enumerates what he takes to be the main points of likeness and the main points of unlikeness between the evolutionary moral code and that of 'Christianised Liberalism'. He says that the only likenesses are the following: (i) That both codes are in principle *universalistic*. I take this to mean that each requires that any two persons shall be treated alike unless it can be shown, to the satisfaction of an unbiassed third party, that there are such differences between themselves or their circumstances that better results on the whole are likely to follow from treating them differently. (ii) That both take the value of the *individual* to be primary and paramount. (iii) The two codes will further resemble each other in any principles which follow from (i) or (ii) or the conjunction of both of them.

The main differences between the two systems of morality are said to be the following: (i) The moral standards or criteria of 'Christianised Liberalism' are accepted on authority or on the grounds of an alleged revelation, and are therefore fixed once and for all. Those of the evolutionist can be modified and developed. (ii) The moral standards of the evolutionary system are 'dynamic', whilst those of its rival are 'static'. This seems to mean that the moral code of 'Christianised Liberalism' takes the nature of human individuals and human societies to be now fixed and henceforth susceptible only of minor fluctuations, and legislates only for the relations of such individuals in such societies. The moral code of the evolutionist is concerned, not only with this, but also with the rights and wrongs of *processes of change* which carry individuals and societies from one stage of evolution to another.

From these primary differences Prof. Huxley claims to derive the following secondary ones. The evolutionist will lay more stress than the 'Christianised Liberal' on (i) the obligation to plan for *social change*; (ii) the value of *knowledge* as a means to controlling future evolution; (iii) the value of *art*, both as introducing new possibilities of intrinsically valuable experience and as providing the chief means by which emotional, as distinct from intellectual, experiences may be shared; and (iv) certain kinds of *personal religion* as opening the way to attaining certain kinds of 'satisfying

experience and desirable being'. On the other hand, we are told, the evolutionary code condemns practices aimed at securing salvation in a supernatural other life, in so far as these may retard or oppose 'right social change'.

(6) *Comments and Criticisms.* I hope that the above is a fair and a reasonably complete synopsis of the main points in Prof. Huxley's theory. I shall now proceed to make some comments and criticisms upon it.

(6.1) *Development of Conscience in the Individual.* I will begin with one general remark. Of all branches of empirical psychology that which is concerned with what goes on in the minds of babies must, from the nature of the case, be one of the most precarious. Babies, whilst they remain such, cannot tell us what their experiences are; and all statements made by grown persons about their own infantile experiences on the basis of ostensible memory are certainly inadequate and probably distorted. The whole of this part of psychology therefore is, and will always remain, a mere mass of speculations about infantile mental processes, put forward to explain certain features in the lives of grown persons and incapable in principle of any independent check or verification. Such speculations are of the weakest kind known to science.

The next general remark that I would make is this. The connexion between the psycho-analytic and the evolutionary part of Prof. Huxley's theory is by no means clear. The former is concerned entirely with conation and emotion, the latter professes to supply a criterion for judging what is really right and really wrong, i.e. it is concerned with cognition. How are the two inter-related? I will try now to clear this up.

There is evidently a close positive association between what a person calls 'right' and what he feels morally obliged to do and guilty in omitting to do, and between what he calls 'wrong' and what he feels morally obliged to avoid and guilty in doing. A person tends to feel *guilty* (as distinct from merely apprehensive, embarrassed, disgusted, etc.) when and only when he knows himself to be acting or wishing or feeling, or believes himself to have acted or wished or felt, in a way which he would call '*morally wrong*'. Conversely, a person tends to call an act or wish or feeling of his '*morally wrong*' only if his contemporary awareness or his subsequent memory of it is qualified by a feeling of *guilt* (as distinct from one of mere apprehension, embarrassment, disgust, etc.).

Now, it might be held that when a person calls an act or experience of his 'wrong' he is either (a) merely expressing his feeling of guilt, as a person who is angry might express that feeling by exclaiming 'Blast!'; or (b) merely stating the fact that he is feeling guilty, as a person might state that he is feeling angry by uttering the sentence, 'I am angry'. I will call these two alternatives respectively the *Interjectional* and the *Autobiographical* analysis of

what a person is doing when he calls one of his own acts or experiences 'wrong'.

It is quite clear that Prof. Huxley could not consistently accept either of these analyses. For, in the first place, he asks: 'How can we be sure that the objects to which our moral sense affixes the labels of felt rightness and wrongness are *in fact* right and wrong?'; and he claims that a study of the course of evolution provides an answer to such questions. Plainly the question would be meaningless and the answer ridiculous if, when a person calls one of his actions 'right' or 'wrong', he is only expressing a certain emotion towards it or is only stating that he is feeling such an emotion towards it. On the first alternative the speaker is not expressing an opinion at all, and so there can be no question of his being correct or incorrect in calling the action 'right' or 'wrong'. On the second alternative he is making an autobiographical statement about his own present feeling towards the action. Such a statement is hardly likely to be false unless he is deliberately lying; and, if it can reasonably be questioned, it is plain that a study of the course of evolution is completely irrelevant to testing its truth or falsehood.

Secondly, Prof. Huxley evidently holds that the emotion of guilt is *appropriate* to some kinds of action or experience and *inappropriate* to others, and that it may be felt in an *ordinate* or an *inordinate* degree towards those objects to which it is appropriate to feel it. For he says that guilt is an appropriate emotion for a person to feel towards his hatred of his 'beloved mother', and more generally towards his hatred of those whom 'he must at all costs love'. And he tells us that, whilst it is 'perfectly realistic to feel *some* degree of guilt at hating one's beloved mother', it is possible to feel a degree of guilt which is 'excessive', which 'does not correspond to any reality', and which is 'quite irrational'. From this I conclude that he holds that it is appropriate to feel guilt towards those, and only those, of one's actions and experiences which are 'in fact' wrong; and that there is some proper proportion between the degree of wrongness and the degree of guilt felt.

It seems certain then that Prof. Huxley must hold that, when a person utters the sentence, 'So-and-so is wrong', he is not just expressing an emotion but is making a judgment; and that in this judgment he is ascribing to so-and-so a predicate which has no special reference to his present feelings towards so-and-so.

I suppose, therefore, that the connexion between the psycho-analytic and the evolutionary part of the lecture must be this. The former claims to explain how a person comes to attach feelings of guilt of such and such degrees to such and such of his actions, desires, and feelings; and to show what function this attachment of guilt performs in his general development. The conclusion of it is that a feeling of guilt may become attached to anything, wrong or right or indifferent, and that its intensity need bear no proportion to the

degree of wrongness of the actions or experiences to which it becomes attached. A person will be inclined to believe that those and only those of his actions and experiences to which he has attached a feeling of guilt are wrong, and to believe that the degree of wrongness of each is measured by the intensity of the guilty feeling which he has attached to it. But in believing an action or experience of his to be right or wrong he is ascribing to it a certain predicate which has no special reference to his feelings towards it. Whether or not it has this predicate, and the degree to which it has it if it has it at all, are questions which can be decided only by criteria which are elicited in the evolutionary part of the lecture by a study of the course of evolution.

If this account of Prof. Huxley's theory as a whole be correct, we must notice that one important question concerning the development of conscience is ignored by it. How does the individual acquire the notions of right and wrong? According to the evolutionary part of the theory when a person calls one of his actions or experiences 'right' or 'wrong' he is not just talking about his own emotions. He is ascribing to that action or experience (whether correctly or incorrectly) a predicate whose presence or absence can be tested by an objective evolutionary test. If so, he must have an *idea* of that predicate; and nothing that has been said in the psycho-analytic part of the theory about the emotion of guilt and its gradual transference from hatred of the mother to other acts and experiences takes us a step towards explaining the origin of that idea. It is obvious that no theory which is entirely in terms of a person's emotions will explain how he comes to attach to the words 'right' and 'wrong' a meaning which is not definable in terms of his emotions.

It is no reproach to a theory that it does not explain everything; but it is very important that it should not be thought to explain more than it does. Therefore I shall state explicitly what seem to me to be two presuppositions of the present theory. (i) It presupposes that the notions of right and wrong are either innate or are acquired by the individual in some way which it does not explain. (ii) It presupposes that a person has a tendency (a) to ascribe wrongness to those and only those of his actions and experiences towards which he feels an emotion of guilt, and (b) to ascribe to an act or experience a degree of wrongness which is measured by the intensity of the guilty emotion which he feels towards it.

I think that the theory can be illustrated by means of an analogy with the emotion of fear. The theory maintains that the native and primary object of a person's guilty emotion is his hostility to his mother. We are told by psychologists that the native and primary object of fear in infants is sudden loud noises. The guilty emotion may be extended or diverted from a person's hostility towards his mother to any of his other acts or experiences, right, wrong, or indifferent. Similarly, fear may be extended or diverted to almost

any object, whether dangerous, harmless, or beneficial. Therefore the fact that a person feels guilty about X and not about Y, though it will certainly tend to make him *believe* that X is wrong and that Y is not, is no guarantee that these beliefs are correct. And the fact that he feels more guilty about X than about Z, though it will certainly tend to make him *believe* that X is more wrong than Z, is no guarantee that this is true. Similarly, a person may be frightened of X and not of Y, and may be more frightened of X than of Z. This will certainly tend to make him think that X is dangerous and that Y is not, and that X is more dangerous than Z. But it may in fact be the case that Y is dangerous and X is not, or that Z is more dangerous than X. It might be held to be 'reasonable' that a person should feel fear only towards what is really dangerous, and that the intensity of his fear should be proportionate to the real degree of danger. Similarly, it is in some sense 'reasonable' that a person should feel guilt only towards those of his acts and experiences which are really wrong, and that the intensity of his guilty feeling should be proportionate to the real degree of their wrongness.

Perhaps this notion of 'reasonableness' or 'appropriateness' might be analysed somewhat further on the following lines. Prof. Huxley might say that the emotion which the average baby feels towards the average mother in respect of the vast majority of her dealings with it is *love*. It is only in respect of a special class of occasional acts, viz. those which check certain of its impulses, that the average baby feels hatred and hostility towards the average mother. Therefore love is the 'normal' emotion for a baby to feel towards its mother, in the sense that it is the emotion which is habitually felt. Hatred towards its mother is 'abnormal', in the sense that it is opposite in kind to the emotion which is normally felt by it towards the same object and that it is felt only on certain isolated special occasions.

Prof. Huxley might add that love, and the actions which spring from it, are more conducive to the harmonious development of the individual and the stability of society than are hate and the actions which spring from it. A human being is at first wholly dependent on its mother; throughout a long childhood he remains predominantly dependent on her and on others; and throughout his whole life he will be largely dependent on the good-will of his fellows. He will not receive such support for long, and he will be incapable of benefiting from it, unless he is on the whole docile, co-operative, and friendly. Now, unless certain of his impulses are checked at an early age, and unless he largely represses his instinctive reactions of hostility against those who check them, he will become an object of disgust and enmity to those with whom he has to live. To say that a guilty feeling is 'appropriate' to a person's hostility towards his mother and 'inappropriate' to his love for her might mean that (a) it tends to repress anything to which it is attached, and (b) the

repression of the former is, whilst that of the latter is not, conducive to the harmonious development of the individual and the stability of society.

Finally, Prof. Huxley might give the following account of the distinction between a 'reasonable' and an 'unreasonable' degree of guilty feeling. He might compare the feeling of guilt to a medicine which tastes nasty and has various collateral ill-effects on general health. The feeling is unpleasant in itself and depressing and cramping in its effects. It will be too weak if it is not strong enough to repress the hostility to the mother. But, if it is present in more than the minimal degree needed for that and similar purposes, it will hamper rather than forward the all-round development of the individual and his adjustment to society. So the 'right' or 'reasonable' degree of guilty feeling is the smallest dose that suffices for the function which Prof. Huxley ascribes to it.

I will end this part of my comments with the following observations. Any theory which claims to trace the development of conscience in the individual is faced with at least two questions: (i) How does the individual acquire the *notions* of moral rightness and wrongness, goodness and badness, etc. ? (ii) How does he come to *apply* these notions to the particular objects to which he does eventually apply them, i.e. to count such and such actions as right, such and such others as wrong, and so on ? I have tried to show that the psycho-analytic theory supplies no answer to the first question. So far as it goes, moral rightness and wrongness, goodness and badness, might be simple, unanalysable characteristics, and the disposition to form concepts of them might be innate in the human mind. In that case the only answer that could be given to the first question would be to describe the conditions which are severally necessary and jointly sufficient to stimulate this innate disposition into activity and cause the individual actually to think of these characteristics. But, even on this supposition, there might be no innate *moral principles* and even no innate *moral biases*. A person might be equally ready to attach the notion of right or wrong, good or evil, to anything ; and the particular ways in which he did in fact come to apply them might be wholly determined by the conditions to which he was subjected in early childhood.

Now, as we have seen, Prof. Huxley does hold, on the basis of the psycho-analytic theory, that there are no innate moral principles. For, if I have interpreted him correctly, he holds that an individual's earliest judgments of right and wrong are completely determined by and moulded upon his feelings of guilt, and that the extension of his feelings of guilt from his hatred of his mother to any other of his acts or experiences is entirely determined by the influences which are brought to bear on him in early childhood. Prof. Huxley does not explicitly consider the possibility of what I have called 'innate moral bias'. By this I mean the possibility that the human mind may be so constituted that attempts to make a person feel guilty

about certain kinds of act or experience might 'go against the grain' and seldom be wholly successful, whilst attempts to make him feel thus about certain other kinds of act or experience might 'go with the grain'. There is some *prima facie* evidence for this, but I do not know whether it would survive critical investigation.

I think that Prof. Huxley's conclusions about how an individual comes to have the beliefs which he does have about what is right and what is wrong might be compared in certain respects to the known facts about the development of intelligible speech as a person grows up. The power to speak is not innate in human beings; but the power to acquire that power may fairly be said to be innate, since the vast majority of men do learn to speak whilst no other creatures can be taught to do so. Nevertheless, a child will not acquire the power to speak unless it is surrounded by other persons who talk to it, listen to it, and train it. Again, the particular language which a child will first talk if it ever learns to speak at all depends entirely on the particular way in which it is conditioned by those who train it in its early years. Of course other languages may be learned deliberately in later life; but, if so, they will probably be spoken with the 'accent' of the language which was first acquired spontaneously in infancy.

On Prof. Huxley's theory the contents of different moral codes might be compared to different languages, or perhaps more profitably to the characteristic grammatical structures of different groups of languages, *e.g.* Indo-European, Semitic, Chinese, etc. In this connexion it is worth remarking that the grammatical rules which a person follows correctly but unwittingly in speaking his native tongue may be of extreme subtlety, as becomes apparent when they are formulated by grammarians and have to be learned and applied deliberately by a foreigner. There is obviously some analogy to this in the highly complex rules of totem and taboo which anthropologists laboriously elicit from the practices of certain primitive communities.

(6.2) *The notions of 'Internal' and 'External Realism'.* So far as I can see, the essential points here are the following: A person's conscience is internally realistic if (i) he feels guilty about those and only those of his acts and experiences which are *commonly believed* to be wrong in the society in which he has to live, and (ii) if the intensity of the guilty emotion which he feels towards any act or experience is roughly proportionate to the degree of wrongness which is *commonly ascribed* in that society to acts or experience of that kind. Thus internal realism is necessary and sufficient to ensure a satisfactory adjustment between an individual's conscience and the moral code prevalent in the society in which he lives.

Now, whether an act of a certain kind is really right or wrong will largely depend on the nature of the effects which acts of that kind are likely to produce either severally or collectively. And these effects in turn will depend, not only on the nature of the act, but

also on the circumstances, both material and mental, in which it is done.

Suppose, now, that a person judges a certain act to be *right*. Then it may be that, *if* it would have the effects which he believes that it would have, it *would* be right. In that case I shall say that his judgment is 'ethically reasonable', even if he is mistaken about the effects that it will have. On the other hand, it may be that, if it would have the effects which he believes it would have, it *would not* be right but would be indifferent or wrong. Then I shall say that his judgment that it is right is 'ethically unreasonable', even if he is correct in his beliefs about the effects of the action. If he is correct in his judgment about the circumstances in which an act is done and the effects which it will have, I shall say that he is 'factually correct'; if not, I shall say that he is 'factually incorrect'. It is plain then that, if a person makes the judgment, 'So-and-so is right', there are four possibilities, *viz.* (i) that he is being ethically reasonable and factually correct, or (ii) ethically reasonable but factually incorrect, or (iii) ethically unreasonable but factually correct, or (iv) ethically unreasonable and factually incorrect. Similar remarks apply, *mutatis mutandis*, if a person makes the judgment, 'So-and-so is wrong'.

Now, there is no doubt that what Prof. Huxley calls 'external realism' is closely connected with what I have called 'ethical reasonableness'. If a person makes a moral judgment which is ethically reasonable I shall describe it as 'realistic relative to his factual information', no matter whether that information is adequate, correct or incorrect. If, in addition, his relevant factual information is adequate and correct, I shall describe his moral judgment as 'absolutely realistic'.

It is evident that the moral code of a society might not be realistic even in relation to the factual information which is common in that society. It may never have been so. And, even if at some time in the past it was realistic in relation to the relevant factual information then available, it may have ossified at that stage, whilst the relevant factual information available has since been extended and corrected. I have no doubt that a great deal in the current moral code about sexual matters is unrealistic, from the one cause or the other, in relation to the relevant factual information at present available.

Even if the moral code of a society were completely realistic relative to the factual information which is common in that society at a given time, it might not be absolutely realistic; for that information might be either inadequate or inaccurate. And, even if it were absolutely realistic at a certain time, there is no guarantee that it would remain so. For conditions might change, and similar acts performed in widely different conditions might have consequences which were good in one set of conditions and bad in the other.

Obviously the ideal position for an individual is that he should live in a society whose moral code is absolutely realistic, and that his

conscience should be fully adjusted to it. But neither of those conditions will ever be completely fulfilled. Suppose that one had to train a child who one knew would be obliged to live in a society whose moral code was largely unrealistic. Then one would have to compromise between the two evils of giving him a conscience adjusted to the society in which he is to live and therefore largely unrealistic, or a conscience which is highly realistic and therefore largely out of adjustment to the society in which he is to live. This is by no means a merely academic problem for an intelligent and well-intentioned parent or teacher who has to compromise as best he can between producing contented philistines or embittered prigs.

(6.3) *Objective Rightness and Wrongness*. Prof. Huxley's theory of the nature of rightness is a particular form of a very ancient and familiar doctrine, viz. Utilitarianism. For it takes intrinsic value as the primary notion in ethics, and it makes the definition or the criterion of the rightness of an act to be its tendency to produce or to conserve or to increase what is intrinsically valuable. There is, so far as I can see, no special connexion between this account of rightness and the theory of evolution. Utilitarianism was put forward, elaborated, criticised, and defended long before the theory of evolution was thought of, and all the best arguments for it are quite independent of that theory and of the facts on which it is based.

In my opinion the only relevance of the facts of evolution to Utilitarianism is the following. The most serious rival to Utilitarianism is what I will call 'Intuitionism'. This is the theory that the rightness or wrongness of certain kinds of act, e.g. promise-keeping, lying, etc., depends, not on their tendency to produce consequences which are good or bad, as the case may be, but on their intrinsic nature as acts. E.g. this theory holds that the non-ethical characteristic of being an act of promise-keeping necessarily involves the ethical characteristic of being right, and that the non-ethical characteristic of being an act of deliberate deception necessarily involves the ethical characteristic of being wrong, just as the property of being an equilateral triangle necessarily involves that of being an equi-angular triangle. Such a theory of the nature of the connexion between rightness or wrongness, on the one hand, and the various right-making or wrong-making characteristics, on the other, is generally combined with the *epistemological* theory that such connexions are immediately obvious to careful inspection, i.e. that they not only *are* intrinsically necessary but also can be *seen* to be so by any rational being who reflects on the terms. Now anything that tended to weaken this theory would *pro tanto* strengthen Utilitarianism which is its most formidable rival. I suspect that the only relevance of the psycho-analytic account of the development of conscience to the Utilitarian part of Prof. Huxley's theory is that, if it were true, it would cut away the grounds for the rival doctrine of Intuitionism. On the psycho-analytic theory it would be very improbable that a person really does see any necessary

connexion between the nature of certain acts, such as promise-keeping or lying, and their rightness or wrongness; and there would be a psychological explanation of the fact that many people are inclined to think that they do so. But, for reasons which I have given, I consider that the evidence for this theory of conscience is too weak to make it a strong weapon against Intuitionism.

Prof. Huxley enunciates the general principle of Utilitarianism in the formula that it is right to 'aim at whatever will promote the increasingly full realisation of increasingly high values'. But, as Bentham saw, and as Sidgwick insisted, the general principle needs to be supplemented by some principle about *distribution*. For our acts contribute not only to produce good and bad experiences and good or bad individuals, but also to determine *which* individuals shall have good experiences and which shall have bad ones. It will be remembered that Bentham formulated the distributive principle, 'Everyone to count for one and no-one to count for more than one', whilst Sidgwick enunciates several principles of impartiality in the distribution of goods and evils. Prof. Huxley also has a principle of equality. He says that it is right that there should be universal equality of opportunity for development.

He alleges that this follows from the fact that 'the right development of an individual is an evolutionary end in itself'. I do not see that the addition of the adjective 'evolutionary' to the substantive 'end-in-itself' adds any weight to this argument. I am not sure that the conclusion is true, and I do not see precisely how it follows from the premiss. It is plainly conceivable that circumstances might exist in which if equal opportunities were given to all members of a society none of them could develop very far; whilst, if the opportunities given were distributed most bountifully among those who had the greatest innate capacity, much greater aggregate development would result. It is certainly not obvious to me that, in such circumstances, opportunities for development ought to be distributed equally. And I should like to see the steps by which it is supposed to follow from the premiss that the right development of an individual is an end in itself. I suspect that some additional premisses would be needed, and that they would not be particularly plausible if they were brought into the light.

Whether the argument in support of the principle of equality of opportunity from the premiss that an individual is an end-in-itself be valid or invalid it is not a Utilitarian argument. But Prof. Huxley does also support the principle on Utilitarian grounds. He says that equality of opportunity leads to maximum variety, and he holds that a group of inter-related individuals is in the best state possible when there is in it a 'maximum of variety-in-unity'. It seems to me quite uncertain whether equality of opportunity for development would necessarily lead to the maximum variety possible with a given amount of resources. If the available resources were small, there could be only very slight development for

anyone if the opportunities were equal, and this would seem to involve a fairly uniform low level of attainment. If the same resources were distributed unequally, *e.g.* if they were used to enrich a small class of aristocrats with a taste for being patrons of art and learning and sport, it is quite likely that far greater variety would result.

(6.4) *Intrinsic Values*. Utilitarianism, which is a theory about the nature and criteria of *rightness and wrongness*, does not logically entail any particular theory about *intrinsic goodness and badness*. But it presupposes some view or other on this latter subject. So we must now consider Prof. Huxley's opinions about intrinsic value.

In Section 4 above I have collected all that I could find of Prof. Huxley's views on this topic. I will begin by remarking that there are three main questions which may be asked about intrinsic value.

(i) What is the right analysis of statements of the form 'So-and-so is intrinsically good (or bad)'? Do they, as their grammatical form suggests, express judgments in which the speaker ascribes a predicate to a subject? Or is this a delusion, and do they merely express a certain emotion which the person who utters them is feeling? Again, if they do express judgments, what is the nature of the predicate which they ascribe to a subject? Is it simple and unanalysable? If not, how should it be analysed and defined? (ii) If intrinsic value or disvalue be a predicate, of what kinds of subject can it be intelligibly predicated? Or, if the Interjectional Analysis be correct, towards what kinds of object can the emotion be felt which is expressed by sentences which *seem* to ascribe intrinsic value to a subject? (iii) If intrinsic value or disvalue is a predicate, what are the non-ethical characteristics of a subject which make it intrinsically good or bad, as the case may be? Or, if the Interjectional Analysis be correct, what are the non-ethical characteristics of an object which call forth the emotion which is expressed by sentences which *seem* to ascribe intrinsic value to a subject?

(i) I think it is certain that Prof. Huxley holds that such sentences as 'So-and-so is intrinsically good (or bad)' do express judgments in which a predicate is ascribed to a subject, and do not merely express an emotion which the speaker is feeling. But I have no idea whether he thinks that the characteristic denoted by the phrase 'intrinsically good (or bad)' is simple or complex. And I have no idea what he thinks to be the correct analysis of it if it be complex.

(ii) It seems certain that Prof. Huxley holds that intrinsic value can be predicated intelligibly of (a) certain experiences, and (b) human individuals. I am not sure whether he holds that it can also be predicated of (c) certain groups of inter-related human beings.

Some of his statements, if taken literally, seem to imply that he holds (c). He says, *e.g.*, that the individual is 'higher than the state or the social organism'. Now, if such a comparison can be made at all, it implies that both an individual and a society can have intrinsic value. What precisely it means is not clear to me.

Does it mean that the value of *any* individual is greater than that of *any* human society? Or does it mean that the value of the *best* individual is greater than that of the *best* society? Whatever it may mean, two reasons are given for it. One is that individuals have experiences, whilst no group of individuals can literally have an experience; and that certain experiences are of very great intrinsic value. The other is that the conclusion is evident 'on evolutionary grounds'.

I find all this very unsatisfactory. Consider the following three questions. (a) Can intrinsic value be predicated intelligibly of certain groups of inter-related individuals? (b) If it can, can the value of such a group and that of an individual be intelligibly compared in respect of magnitude? (c) If so, is the value of any individual, however bad, necessarily greater than that of any group, however good? Or is the value of the best possible individual necessarily greater than that of the best possible group? The mere fact that only an individual can literally have experiences and that certain experiences have very great intrinsic value, does not seem to me to settle any of these questions. And, if there be 'evolutionary grounds' for answering the third question affirmatively in either of its forms, I have failed to discover them in Prof. Huxley's lecture and I am quite unable to imagine for myself what they may be.

(iii) About the non-ethical characteristics whose presence confers intrinsic value on the things which possess them Prof. Huxley's views seem to be as follows:

(a) He does not explicitly enumerate the characteristics which he thinks confer intrinsic value on *experiences*. He contents himself with mentioning certain experiences which are commonly held to be intrinsically valuable, *e.g.* certain æsthetic and religious experiences. But he does mention two characteristics which he thinks confer a higher value on an experience the more fully and intensely they are present in it. These are the property of being 'intrinsically or permanently satisfying' and that of 'involving a degree of perfection'.

I do not clearly understand what is meant by 'perfection' in this context. It seems tautologous, and is certainly not illuminating, to say that the more perfection an experience has the more valuable it will be. The notion of being 'intrinsically or permanently satisfying' also needs a great deal of further analysis and elucidation. The first move would be to attempt to draw and justify a distinction between what 'really would satisfy' a person and what he 'thinks he wants'. At the next move we should have to raise the question whether a stupid or a cruel or a lustful person might not get 'real' satisfaction from experiences which we should hesitate to call intrinsically good. All these questions have been commonplaces of ethical discussion for some two thousand years, and I cannot see that any fresh light has been thrown on them by reference to evolution.

(b) Intrinsic value is conferred on an individual by a combination of the fullest all-round development of his powers with the special development of any particular talents in which he is capable of excelling. This, again, is a form of a very ancient and familiar doctrine. It goes back to Plato and was put forward in England in the nineteenth century by moralists of the school of Green and Bradley and Bosanquet under the name of 'self-realisation'. Its strong and weak points have been very fully canvassed, and I do not think that evolution has anything fresh to add to the discussion.

(c) If Prof. Huxley does hold that intrinsic value can be significantly ascribed to certain groups of individuals, it is plain that he thinks that what gives intrinsic value to such a group is a combination of individual variety with collective unity.

It is useful in this connexion to bear in mind McTaggart's distinction between the value *in* a group and the value *of* a group. I think it is quite possible that, if the distinction were put to him, Prof. Huxley would deny that there is goodness or badness *of* a group, and would say that variety-in-unity is important only as making for maximum goodness *in* a group, *i.e.* for making it consist to the greatest possible degree of good individuals enjoying good experiences.

(6.5) *The Relevance of Evolution to Ethics.* There are two questions to be discussed, and it is important to be clear about the connexions and disconnexions between them. (i) What bearing, if any, has knowledge of the facts of evolution on the question of what is *intrinsically good or bad*? (ii) What bearing, if any, has it on the question of what is *right or wrong*?

It is important to notice that, even if such knowledge had no bearing at all on the first question, it would almost certainly have a bearing on the second. This would be so even if Utilitarianism were false, but it is more obviously so if it is true. The reason is as follows. On any theory of right and wrong which is worth consideration *one* of our duties, and a very important one, is to produce as much good and as little evil as we can. If Utilitarianism is true, this is our *only* ultimate duty and all our other duties can be derived from it. If Utilitarianism is false, we have other duties not derivable from this which may conflict with and limit it, but it will remain an urgent obligation. Now, in order to decide whether the effects of an action will be good or evil we must first know *what* its effects will be. This is a factual and not an ethical question, and the answer to it depends on the circumstances in which the action is done and the relevant laws of nature. It is plain that knowledge of the laws of evolution may be highly relevant in attempting to foresee the large-scale and long-term consequences of certain types of action. Such knowledge may also suggest possibilities which would not otherwise have been contemplated, and it may rule out as causally impossible certain results at which it might otherwise have seemed reasonable to aim. I do not think that any moralist would deny that evolution has this kind of relevance to the question of what is right or wrong.

If knowledge of the facts of evolution had a bearing on the question of what is intrinsically good or bad, it would have an additional relevance to the question of what is right or wrong. This would be the case on any view of rightness and wrongness which makes beneficence to be one of our duties, and it would be most obvious on the Utilitarian view which makes beneficence to be our only fundamental duty. For, on the present hypothesis, a knowledge of the facts of evolution would help to tell us, not only *what* the effects of certain actions would be, but also whether such and such effects, if they were produced, would be *intrinsically good or bad*. So the question that remains is whether knowledge of the facts of evolution has any bearing on the question of what is intrinsically good or bad.

It is plain that Prof. Huxley thinks that it has an important bearing on this question, but I find it extremely hard to see why he does so. Perhaps I can best bring out the difficulty that I feel in the following way. Take the things which Prof. Huxley considers to be intrinsically good, and imagine him to be confronted with an opponent who doubted or denied of any of them that it was intrinsically good. How precisely would he refute his opponent and support his own opinion by appealing to the facts and laws of evolution? Unless the notion of value is surreptitiously imported into the definition of 'evolution', knowledge of the facts and laws of evolution is simply knowledge of the *de facto* nature and order of sequence of successive phases in various lines of development. In this way we may learn that certain lines of development have stopped short, in the sense that a point has been reached after which the successive phases in this line have shown no further increase of complexity-in-unity. By comparing and contrasting such lines with others which stopped short at a more complex stage or which have not yet done so at all we may be able to infer some of the necessary conditions for continued growth of complexity-in-unity in the successive phases of a line of development. This much could be discovered and understood by an intelligent being who had never had the faintest notion of intrinsic value or disvalue; and this is *all* that a knowledge of the facts and laws of evolution, considered as a part of natural science, amounts to.

If, then, Prof. Huxley is to support his own views about the intrinsic value of so-and-so and to refute those of an opponent by appealing to the facts and laws of evolution, there must be a suppressed premiss in the argument. This premiss must be some such proposition as 'States of affairs which have more complexity-in-unity are as such intrinsically better than those which have less complexity-in-unity', or (what is by no means the same) 'Processes of change in which there is increase of complexity-in-unity in the successive phases are intrinsically better than those in which there is stability or diminution in this respect'. (Prof. Huxley might prefer the latter as more 'dynamic', since it ascribes intrinsic value,

not to the separate phases, but to the process of change itself in which they occur.) At any rate he must use *some* 'mixed' premiss, connecting certain *purely factual* characteristics, which are all that a study of evolution can possibly reveal to us, with the *value-characteristics* of intrinsic goodness and badness. I must confess that this seems to me to be so obvious a platitude that I am almost ashamed to insist upon it; but it seems that it is still liable to be ignored.

Now, whatever may be the evidence for such a mixed premiss, it is quite plain that it must be something different from the evidence for the facts and laws of evolution. For the premiss required asserts a connexion between certain of those facts and laws and something else, *viz.* intrinsic value or disvalue, which forms no part of their subject-matter. Therefore, whilst I agree that a knowledge of the facts and laws of evolution might have considerable and increasing relevance to the question whether certain acts would be right or wrong, since it might help us to foresee the large-scale and long-range consequences of such acts, I am unable to see that it has any direct bearing on the question whether certain states of affairs or processes or experiences would be intrinsically good or bad.

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Francis Bacon on Communication and Rhetoric. By KARL R. WALLACE. The University of North Carolina Press, 1943. Pp. xiv + 276. \$5.

STUDENTS of literature must often be surprised at the relatively unimportant place assigned to great writers like Francis Bacon, Lord Herbert of Cherbury and Thomas Hobbes in the story of modern philosophy; yet to those who take a wider view the explanation is obvious and significant. In England, the rising sun of Renaissance science was obscured for a longer period by the clouds of the new theology than it was in other parts of Western Europe, so that the earliest modern English philosophers were largely out of touch with what we may call the secular tradition in European thought. This pre-occupation with questions of faith had its compensations. Because of it, the first English scientists preferred crass experimentalism to fine-spun theories, and therefore, when the time came for theorising, it was the genius of Newton, not that of Leibniz, which dominated the whole field of human knowledge.

The Baconian philosophy is at best only a branch line of modern thought. For it, however, Bacon constructed an elaborate Grand Junction Station where every conceivable form of traffic could be handled. Unfortunately, it attracted few passengers, and its designer was unable to provide more than a trickle of experimental