

The Future Resolution of the One Remaining Issue

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WE ARE NOW in a position to sum up—both with regard to where we are at present and where we can expect to be in the foreseeable future on the question of how man differs from everything else on earth. Let us break that question down into its several parts and deal with each in turn.

(1) With regard to whether man differs in kind or degree from other animals, the available evidence now supports the answer that man differs in kind; but it is necessary to remember that this conclusion is tentative in the sense that it is based on evidence now available, and so does not preclude the possibility that evidence of a contrary tenor may be forthcoming in the future.

We are obliged to ask ourselves, therefore, what effect contrary evidence would have, should it ever be discovered and be generally agreed upon to the same extent as the fact that only man has propositional speech is now agreed upon. The easiest way of doing this is to suppose that, at some future date, it is discovered that other animals—the bottle-nosed dolphin, the chimpanzee, or even the dog—can engage in propositional speech to some degree. Let us suppose, in other words, that this or that species of subhuman animal passes the conversational test. Let

us further suppose that this power is *not* found in *all* subhuman animals, but only in *some*. What would follow from general agreement about the facts here being supposed?

In the first place, we would have to say that man differed only in degree, not in kind, from the subhuman species that manifested the power of propositional speech to some degree. In the second place, we would have to say that man, together with these other species that also possessed the power of propositional speech, differed in kind from the rest of the animal world that totally lacked the power in question. In the third place, we would have to attribute the power of conceptual thought not only to man but also to whatever other species possessed the power of propositional speech, while still denying it to the rest of the animal world that lacked this power. In the fourth place, attributing the power of conceptual thought to one or more species other than man, we should be inclined to look for evidence that they also had the power of toolmaking, of history-making, of law-making, etc.—all the powers, in short, that have their root in the power of conceptual thought. We shall presently be concerned with the practical consequences that might follow from such possible future discoveries and from the inferences or conclusions to which they would give rise.

(2) Let us consider next the question whether the difference in kind between man and other animals is superficial or radical. This question, as we have seen, involves the question whether man's power of conceptual thought can be adequately explained in terms of neurophysiological processes; in other words, whether the human brain is not just a *necessary*, but is by itself *the sufficient* condition of man's having the power of conceptual thought.

With regard to this question, our examination of the scientific evidences and the philosophical arguments now available made the following points clear. The philosophical arguments for the moderate materialism of the identity hypothesis try to support the answer that the brain is the sufficient condition, and that the difference in kind is, therefore, superficial, involving a critical threshold in a continuum of degrees in brain magnitudes. The philosophical arguments against the identity hypothesis and for a moderate immaterialism try to support the opposite answer;

namely, that the brain is only a necessary, but not the sufficient condition, and hence, that an immaterial power is required to explain conceptual thought. If that is the case, man's difference in kind is radical.

The opposed philosophical arguments, as we have seen, are deadlocked in the sense that neither of the opponents has as yet been able to persuade the other, or is likely to in the near future. The scientific data at present available leave the philosophical issue unresolved; there is no neurological evidence that definitely favors one side rather than the other. In addition, we have seen why future neurological research cannot ever by itself be decisive on the question whether the brain is a necessary or the sufficient condition of conceptual thought. Finally, we have seen that the future does contain the possibility of efforts by technologists to build a robot that will meet the Cartesian challenge—a robot that will be able to play Turing's game successfully; or, in other words, a machine that will use an ordinary language such as English and engage in conversation with men.

The future, therefore, contains two distinct possibilities. One is that a machine will pass the conversational test and, by so doing, will decisively falsify the immaterialist hypothesis, leaving the materialist position in command of the field. If that result is reached, the answer to our second question must be that the difference in kind between men and other animals is *only superficial*.

The other possibility is that, with repeated trials, machines will fail to pass the conversational test and, by failing to do so, will confirm the truth of the immaterialist hypothesis, or at least add weight to the argument it brings to bear against the materialist position—the position that predicts a machine's success in the conversational test. If that result is reached, the answer to our second question must favor the other alternative; namely, that the difference in kind between men and other animals is *radical*.

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The future must bring about the realization of one of these two possibilities. Since they exhaust the alternatives, that is a

certainty. Hence, it is equally certain that the future holds a resolution of the ultimate question about man—whether his make-up does or does not involve an immaterial power; and, accordingly, whether he differs radically or only superficially in kind from other things. Since the certain promise of a relatively decisive answer, one way or the other, carries with it theoretical and practical consequences of the greatest importance, let us look closely and carefully at the logic of the alternatives.

The opposed philosophical positions that constitute the ultimate issue in the mixed question about man can be regarded as hypotheses, each with a different prediction about the future outcome of efforts to produce a Turing machine that will succeed in passing the conversational test that is the third prong of the Cartesian challenge.

The immaterialist position predicts failure in the Turing venture. If its proponents are reasonable rather than dogmatic in their espousal of it, they should be open to the falsification of their hypothesis. So far as I can see, success in the Turing venture would falsify the immaterialist hypothesis. That, in turn, would have one further consequence: if, with the falsification of the immaterialist view, the action of the brain is acknowledged to be the sufficient condition of conceptual thought, then we must conclude that man's difference in kind from other animals is only superficial, not radical. It is generally agreed that man's power of conceptual thought is the root of all the observed behavioral differences in kind between man and other animals: not only his sentence-making, but his toolmaking, his history-making, his law-making, his institution-making, etc. Hence, if his having the power of conceptual thought does not require us to assert the proposition that man differs radically in kind from non-linguistic animals, we must embrace the other alternative; namely, that he differs in kind *only superficially*.

The materialist position predicts success in the Turing venture. It would, therefore, be strongly confirmed by the eventuality of success. But, unlike the immaterialist position, *it cannot be falsified by failure*. As we saw in the case of the projected experiment with dolphins, repeated failures, while discouraging, can always be attributed to experimental deficiencies or obstacles, and need not be interpreted as definitely showing that the dolphins lack the capacity for propositional speech. So here, likewise, failure

in the Turing venture can always be attributed to technological inadequacies or to obstacles that have not yet been overcome in practice *even though, in principle, they are not insuperable*. Nevertheless, if the effort is made time and time again, and success is not achieved, such repeated failures do have some logical effect.

The logical principle that becomes operative, then, is Popper's principle that a theory or hypothesis which is repeatedly put to the test and is not falsified gains in credibility, i.e., it acquires an increasing degree of relative truth. It tends more and more to be confirmed in its truth, even though it can never be completely confirmed with finality as having incorrigible and indubitable truth. In the light of the principle just stated, we would be justified in saying that the immaterialist hypothesis, by submitting itself to a decisive test in terms of the third prong of the Cartesian challenge, would gain some measure of relative truth through the failure of each serious attempt of a Turing machine to pass the conversational test. However, the number of attempts that can be made is as indefinitely large as the amount of time in which men can make the effort. Hence, there is no point at which it can be said that the technologists have definitely failed to meet the Cartesian challenge.

On the other hand, if the proponents of the materialist position are as reasonable as we expect the immaterialists to be, then repeated trials and failures in the Turing venture should have the effect on them of diminishing the credibility—the relative truth—of the identity hypothesis in proportion as it tends to confirm the immaterialist hypothesis and to increase its relative truth.

The future of the mixed question about the difference of man thus involves two major alternatives: (1) eventual success in the Turing venture will decisively settle the question, or will come as close to doing that as can be expected in matters of this kind; (2) with attempt after attempt being made, repeated failure in the Turing venture will progressively confirm the truth of the immaterialist position and, with it, the truth of the proposition that man differs radically in kind from other intelligent animals and from apparently intelligent machines. [1]

The certainty that one of these two alternatives will be realized in the future impels me to assess in advance the consequences—both theoretical and practical—that follow from the realization of one or the other of these alternatives. What difference does

it make to us if man differs *only superficially* in kind from other animals? What difference does it make to us if man differs *radically* in kind from other animals and from machines? These are the questions I will attempt to answer in the third and last part of this book.