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THE NATURAL SCIENCES

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September 10, 1945

Dear Ray:

This is, as you say, a discussion for clarification of ideas, and in no sense an argument. I do, however, want to add a few remarks that will give a little more background to what I wrote previously - which, as you guessed, was hastily dashed off in a letter on another subject.

I have never succeeded in thinking in absolute terms on any moral issue. I have to be content with trying to decide, as of here and now, which one of the accessible alternatives is better or best. This is not, it has been pointed out to me on various occasions (by Mary, for example), a very noble philosophy. I have the greatest admiration for those whose clarity of vision and pureness of spirit allow them to see and to grasp the eternal absolute criteria of right and wrong; but I am not one such.

There is, of course, always the danger that one selfishly or blindly or wickedly refuse to acknowledge the existence of one or more of the accessible alternatives - the ones which are harder but preferable. But that is only to say that we are all imperfect creatures. That is a failure of the philosopher, not the philosophy. On the other hand, the philosophy of the better or best alternative has the practical strength that it always indicates a course of action: and, to one saturated with the operational viewpoint of modern physical science, that is all that one has a right to ask or expect.

Thus in the case of the atomic bomb, I think it is a reasonable certainty that there were but two alternatives that had any reality; namely:

- 1) That we develop the bomb first.
- 2) That it be developed first by some other nation.

When I earlier said that "Moralizing about the atomic bomb, in terms of the last century, is in my judgment silly and useless," I really meant that it was silly and useless to consider some Pollyanna third alternative which would recommend:

- 3) That everybody just forget about this terrifying business and leave the atom alone.

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I respect - and in a vague and weak romantic sense almost agree with - the position of the moralists and philosophers who regret that man ever got his fingers on these forces; and who may even think that, having done so, we ought now just forget about the whole thing, or legislate it into oblivion. But I am confident that their position is wholly unrealistic.

Actually it is only with the weakest and vaguest romantic part of myself that I wish we had not got our fingers on these forces. Really I don't believe that. We are men: not ostriches. We have to face the challenge of the universe with all the energy and resourcefulness and curiosity and intelligence we have. We have to go as deep within nature as we can - and we have to be decent enough and men enough to cope with the consequences. "The wrath of the atom," as Corwin said, "has fallen like a commandment; and the earth trembles with its implications." But whatever those implications, let us face them. Let our hold on the future never depend on the shameful fact that we lacked the courage to go ahead.

So far, however, I have considered only the question of the development of the atomic bomb. Should we have used the atomic bomb?

This is quite another matter. This question, I suspect, is so deeply involved with many practical but secret aspects of the war and of international politics that, in trying to apply the process of examining the accessible alternatives, I am handicapped by the fact that I surely do not know what those alternatives really were. There is, however, one alternative which would have seemed to me almost indefinitely preferable to what we actually did. I wish that the circumstances had permitted (and perhaps they did) a direct secret message from our President to the Emperor, stating that we now had this weapon ready for use; that tests had indicated that it had a destructiveness some x times that of an ordinary bomb of stated size; that one such bomb thus would surely destroy a large part of the physical and human resources of any city; that we did not want to use this revolutionary weapon; and that we therefore gave them some reasonable small number of days in which to agree to surrender in accordance with the Potsdam terms. We might conceivably, if they indicated that they thought this a bluff, offer to conduct a New Mexico demonstration and fly neutral (Swiss and Swedish, say) or even Japanese observers to be present at the demonstration. Perhaps it might have been possible to conduct a reasonably bloodless demonstration on some Pacific island, or even in some designated uninhabited locality in Japan.

I am afraid that there may have been many and serious practical objections to this, perhaps the chief being that we would have entered a long period of delay and argument. It may also be true that the power of a bomb to destroy a city cannot be convincingly demonstrated except by destroying a city.

Still I wish this could have been tried. Our moral position would have been simpler, certainly, and probably much stronger if we could have forced the Japanese to surrender without using the bomb. There seems a good bit of evidence that the destruction of their navy, the effectiveness of our sea blockade,

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and the results of the previous ordinary bombing had reduced the situation on the home islands of Japan to a very thin and hollow shell, ready to collapse at any moment; and that the atomic bomb to some extent at least played the role of offering the Japanese a good face-saving excuse for surrender. Perhaps the threat or the demonstration would also have been a good enough excuse. On the other hand, perhaps it would not. One gets the impression that the Japanese surrender has been a very unstable business. The people had been kept in ignorance of the true state of affairs - they were even assured, to the last, that they were winning. The vast armies were essentially intact. Perhaps only an event of unprecedented character could have brought about the surrender without indescribable chaos and bloodshed.

And now, finally, I want to speak of an aspect of the matter that seems to me more fundamental. I start with the observation, trite but sometimes conveniently forgotten, that to anyone with absolute moral standards war is in its essence a wicked business. I really think that the only acceptable stand for such persons is that of the conscientious objector who refuses to have any part whatsoever. A nation is, however, sometimes confronted with the practical alternatives of fighting or of becoming the victims of an unprincipled aggressor. When that happens, I myself think that nation has to fight; and I think the citizens of that nation are, in the process, inevitably forced into procedures which in any other setting would be monstrous.

I, for one, cannot succeed in distinguishing between certain supposed grades of the monstrous behavior to which a nation is thus forced. Moral issues do not seem to me to depend much on quantity, but principally on quality. Of two men, the first of whom murders one person and the second, ten, I consider the second the greater menace to society and perhaps the greater madman; but au fond the two men seem to me equally immoral.

Thus I find it difficult to set up any very significant moral distinctions between a bomb that kills 80 persons, or 90 persons, or 100 persons, or 1,000 persons, or 50,000 persons. At just what number of victims does a bomb begin to be an "immoral" bomb? My own answer is that the question is meaningless. I find it impossible to make any moral distinction of importance between killing 5,000 civilians a night for twenty nights of bombing with great fleets of planes and killing 100,000 civilians in one night with one bomb from one plane.

I have similar difficulties about the distinction between the elegance and propriety of frying the enemy with flame throwers, but not putting them hors de combat with gas.

But this does not mean that any and all sorts of savagery are justified, once one declares war. It seems to me that there is a towering moral distinction between the position of the aggressor and the defender. You surprise me when you say that we have confidently forgotten our previous indignation at the Germans over their bombing of Rotterdam. To me there is a wide moral chasm between the Stukas which roared down on innocent and surrendered Rotterdam, and the Superforts which systematically destroyed the productive capacity and the will to war of an aggressor people.

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But the distinction has, to me, nothing to do with the outmoded distinction between combatant and civilian. War is now waged between populations. One might fairly mention that the Pacific war was perhaps the first major war in which the armies - ours and Japan's - never really got around to fighting each other. Food is a weapon, just as much as is a 40 mm. shell. Sometimes sentimental and chivalrous persons point out the indecency of killing those "who are defenceless - who cannot fight back." But the civilian population is by no means defenceless (as one who worked chiefly on anti-aircraft fire control would like to emphasize), and they certainly fight back for all they are worth.

I come back, then, to the practical issues. Did the atomic bomb shorten the war; did it save American and Japanese lives; does it constitute an irresistible compulsion for the world to organize itself into a decent and peaceful pattern? I think there is a better than even chance that the answers are all affirmative.

Did we, as you say, use the bomb on a nation which, by virtue of its scientific and technological resources, could not possibly have produced such a bomb to use on us? I cannot agree to this statement. It is quite true that - at least within several years - the Japanese could not have produced atomic bombs the way we have done it. But, as the most experienced experts in this field have long admitted, there always remains the chance that some one will discover a process or technique so devastatingly simple (and incidentally so much more powerful in its end result) that such a bomb could be made much more quickly and easily, perhaps in a month in some one's basement.

Is the claim that the atomic bomb saved American and Japanese lives a cruel illusion? That is, will some one else, now that the weapon has been "legitimatized" by us, proceed presently to wipe out millions of Americans?

It is possible that this may occur. But if it does occur, I cannot believe that the use against us by an aggressor nation would depend upon the fact that we had "legitimatized" the weapon. The unprincipled aggressor nations would certainly use this weapon, if they had it, quite independent of whether we had used it or not. No, on the contrary, I think that this calamity, which has been a real possibility for some time now, is made definitely less likely by our development and use, rather than more likely. We have proved, in the one way which would be credited by some, that we are ahead in this matter. And this gives us, for a precious moment of history, a powerful and compelling opportunity.

Indeed what we have on our side now is time. Eventually every one will solve the riddle of atomic power. But for a critical two to five to ten years this secret rests with the United States and England. Allied with us are Russia and China and France and the rest. As never before, the world wants peace. As never before, we all recognize the necessity for a world organization

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which will enable us to live together in peace. As never before, and for a brief moment only, the democratic nations have a power that is irresistible. Now is our last chance.

As ever,

*Warren Weaver*

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