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Prof. Joshua Lederberg,  
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Dear Prof. Lederberg:

I was surprised and pleased to receive your letter of February 12th. I am glad that you found my ideas interesting and possibly useful. I am sorry that I cannot at the moment put my finger on the recent writings that I mentioned in my earlier letter since I have not done more than to note them in my reading. I have not kept references on them nor notes. It is also possible that I have seen what I wished to see in some of them because of my own interests. I would have to search them out and recheck them to be of any real use to you. At the moment, my mind flags up Prof. George Odiorne's recent book, Management Decisions by Objectives; some of the work of Prof. Robert Katz of Harvard as published in the Harvard Business Review some 15 years ago and a recent speech by John Gardner on The Antileadership Vaccine.

I regret that I did not retain a copy of my letter to you so that a follow up on it is a bit difficult. Your own letter is a Xerox over mine, so that most of mine is obscured. But let me add the following thoughts. One of the problems that I have found with goals is that they are too compressed and generalized to be workable blueprints. This is usually essential to brevity, but it does not lead to action, merely to agreement. Your own statements in the article you sent along appear to have this same problem. The opposite side of this coin, of course, is that any blueprint of the realities of our present world conditions would be so complex and multi-dimensional as to be unreadable. Some simplification and generalization is therefore completely essential if we are to achieve a clear picture of the total system with which we are trying to deal. And yet we must get down to the nitty gritty of where we are and the next steps that can be taken in the right direction before we can move - and even then we must be able to predict with reasonable accuracy what the system side-effects of each move may be. One of our basic problems is that we are dealing with a complex, delicately balanced system in which no change can be made that does not affect other factors. Our present research tends to pull pieces out for analysis and then wonder why they behave differently when put back into the total matrix.


I am enclosing a chart which a group under my leadership developed to assess production conditions in a typical factory situation and to work with unit leaders to improve their conditions. It illustrates the complexity of even such a limited situation and the amount of information needed to set goals and act. The left column sets some common goals. The next two columns show positive and negative indicators of the presence or deficiency of those goals. Not all of the information is needed in any one situation. A clear pattern usually shows when 35% to 50% is disclosed. This can be done in about 90 minutes by working with the man himself and his associates. At that point, the leader is generally ready to take at least some useful steps toward goals he himself desires. The process works much better than fire-fighting efforts by staff people to solve his problems after they have become visible or trying to get him to take preventive action on problems that are not yet big enough to bother him. Accompanying papers describe two units thus evaluated. The leader of the poorer

one was very receptive to help after he had checked out what he himself knew about his own unit. Peace was thus established between staff and line functions and the two could work together toward the desired ends. To me this is a micro-sample of the bigger problem of peace and of the type of work that is needed to get an effective approach. I do not delude myself, however, that the recalcitrants in the world will come around as easily as this one leader did.

I am also enclosing an article that I wrote in 1951 which expands on my original letter. I would put a different ending on it today, but it still holds up fairly well. In the 20 years since it was written, I have come to understand the need for knowing total systems and their internal and external interactions to a much greater extent than I did at that time. I have also learned somewhat more about predicting human responses in system situations. It has also dawned on me in a BFO (Blinding Flash of the Obvious) that one cannot eliminate a problem if that problem is a necessary but malfunctioning part of a system. Subtracting the problem won't make the system work.

I'm afraid that I have gotten a bit lengthy. One could go on discussing this problem for pages, but this is more than enough for now. I hope that it may be of some help or interest to you.

Sincerely,

  
Hugh M. Pease