

freedom of learning, freedom of discussion, freedom of inquiry, which, however it is threatened, must be vigorously

defended. The right to inquire is at the very heart of the spirit from which all creativeness develops.

3. Creativity vs. Organization Life

by W. H. WHYTE, JR.

I WOULD like to address myself to the problem of how creativity can be fostered within organization life. For better or worse we live in an organization society and most of our talented youth will make their major contributions, if they are to make major contributions, through the vehicle of the huge collective enterprises of our time. There are other ways to be creative, and it may be that in the years to come great advances will be made by those outside of the organization environment. But it is not likely. Society does not usually condone double standards, and if the dominant institutions of our time—the corporation, the government, the academic laboratory, the foundation—do not encourage the creative spark, there will be precious few opportunities for it elsewhere.

I am talking, in short, about the conditions of creativity, and the first thesis, I submit, is this. The organization is basically hostile to creativity.

To make this statement is not to bespeak a sense of futility. Quite the opposite. In every era the obstacles to creativity have been immense, and we have quite enough problems today without muddying the issue with misplaced nostalgia. In realistically examining current organization pressures, then, no contrast is intended between paradise and paradise lost. We are not in the grip of hapless forces. Organizations have been made by men; they can be changed

by men, and with intelligence we may be able to make them as compatible with individual expression as institutions of the past.

That said, I am emboldened to state my second thesis; people should be taught to fight the organization. Not self-destructively or stupidly, no. The problem of the one who wishes to be creative in an organization is not the easy one of the brave man fighting black reaction; the brilliant inventor facing massed disbelief. The real issues are far more subtle. For it is not the evils found within organization life that puzzle one—but *its very beneficence*. This is the heart of the problem. The organization man by necessity works with and through others constantly, and he feels a strong moral obligation to the consensus of the group. He is, in a sense, imprisoned in brotherhood. For example, he has been working out a new idea. He believes in it, yes, but so also does he believe in the consensus that this idea will confound. If he goes off on his own tangent, he wonders, is he being courageous—or wilfully stubborn? Of such problems are born the neuroses of organization man. What he needs is intellectual armor; the ability to recognize what the pressures are so that he may judge when he is succumbing and when he is not.

Let us look briefly at the pressures. The first is the organization's antipathy to purposelessness, to idle curiosity. And nowhere is this antipathy stronger than

in the one area where creativity is so important: the scientific laboratory. Almost every fundamental advance has been the result of a man asking the question, *why*, not as a means to some clearly foreseen end—as it is so often pictured in retrospect—but one of sheer curiosity. Unfortunately, however, the organization must rationalize curiosity, and to managers and engineers who set the dominant tone in industry purposelessness is anathema. All their impulses incline them to highly planned, systematized development in which the problem is clearly defined. Now this has its values; if researchers want to make a practical application of previous discovery—if a group at GM's Technical Center wants a better oil for a higher compression engine, for example—it does best by addressing itself to the stipulated task. In pure research, however, half the trick is in finding out *that there is a problem*—that there is something to explain. The culture dish remained sterile when it shouldn't have. The two chemicals reacted differently this time than before. Something has happened and you don't know why it happened—or if you did what earthly use it would be.

Rationalize curiosity too early, however, and you kill it. In the case of the scientist it is not merely that he finds it difficult to foresee what it will prove at the cash register; the sheer act of having to address himself to this or, as management might put it, the \$64 question, dampens his original curiosity—and the expectation that the company will ask him to do it just as dampening as the actual demand. The result is a net loss, not postponement, for if the scientist is inhibited from seizing the idle question at the time, it is not easily recaptured later. Like the nice gestures we so often think of and so often forget,

many a question that would have led to great discoveries has died as quickly as it was born; the man was too busy to pause for it.

Companion to this disrespect for curiosity is an over-emphasis on programs, on research design. To put it another way, the organization doesn't mind idle curiosity if you are curious about what the organization wants you to be curious about. This is true of every field in which creativity is vital. The exceptions are significant. When my colleague, Francis Bello, made a study of the young scientists, he found that there were only two industrial research laboratories which had consistently attracted truly outstanding men. These were Bell Laboratories and General Electric's laboratories. What makes it significant is the fact that these two laboratories are precisely the two which give the freest rein to their people. They do not ask their men to foresee what the practical results will be; instead, they encourage them to go into the basic questions for they know that in good time these will lead to practical results.

The limited influence of these successes on the industrial world is disheartening. There is nothing at all new in the research philosophy that led to them; both GE and Bell Laboratories established their basic procedures several generations ago, and their pre-eminence has been commercially apparent for as long. Yet with these models before it, U. S. industry has not only failed to draw any lessons, it has been moving further and further in the opposite direction.

By their own statements of policy the majority of corporations make it plain

W. H. WHYTE, JR., is assistant managing editor, *Fortune Magazine*, New York, N. Y.

that they wish to keep their researchers' eyes focused closely on the cash register. Unlike GE or Bell laboratories, they discourage their scientists, sometimes forbid them, from publishing the results of their work in the learned journals or communicating them in any way to scientists outside the company preserve. More inhibiting, most corporations do not let their scientists devote more than a fraction of their time to following up problems of their own choosing, and this fraction is treated more as a sort of indulgence than an activity worth while in its own right.

To some management people the desire to do "free" work is a downright defect—a symptom of maladjustment that demands cure, not coddling. When a man wants to follow his own hunch, they believe, this is a warning that he is not "company-oriented." The solution? Indoctrination. In a revealing statement in "Personnel Practices in Industrial Laboratories," Lowell Steele puts the issue squarely: "Unless the firm wants to subsidize idle curiosity on the part of scientists," he says, "it must aid them in becoming company conscious." Company loyalty, in other words, is not only more important than idle curiosity; it helps prevent idle curiosity.

Let me note the extracurricular "creative" gimmicks—"brain-storming" sessions, etc. These evade the central problem. What makes for creativity is the basic environment: you can't stifle a man 95% of the time and then expect him, on signal, to suddenly become a different kind of person. The administrators are perfectly correct. If they get scientists to be good company men like other normal people, they won't be bothered much by scientists following their curiosity. The policy will keep out that kind of scientist.

What is the dominant characteristic of the outstanding scientist? Every study has shown that it is a fierce independence. In her study of eminent scientists, psychologist Anne Roe found that what decided them on their career almost invariably was a college project in which the teacher encouraged them to find things out for themselves, without direction, and once the joys of freedom were tasted, they never lost the appetite. The most important single factor in the making of a scientist, she concludes, is "the need and ability to develop personal independence to a high degree. The independence factor is emphasized" by many other findings: the subjects' preference for teachers who let them alone, their attitude towards religion, their attitude towards personal relations, their satisfaction in a career in which, for the most part, they follow their own interests without direction or interference."

In the outstanding scientist, in short, we have almost the direct antithesis of the "company-oriented" man. If the company wants a first rate man it must recognize that his allegiance must always be to his work. For him, organization can only be a vehicle. What he asks of it is not big money—significantly, Bell Labs and GE have not had to pay higher salaries than other research organizations to attract talent. Nor is it companionship, or "belongingness." What he asks is the freedom to do what he wants to do.

So far I have been talking of the organization pressures against curiosity; of the organization pressures for highly programmed work. The third pressure is for collective versus individual creativity. The corporation laboratory is a clear example of this, but to bring out the generality of this emphasis let me turn to the academic organization. The

first point to be made is that in academic research the proportion of time the individual researcher spends in group work has been rising steadily. Now I would not wish to argue that this in itself is bad; no one can say what is the "correct" ratio of group versus individual work. The point is that the benefits of group creativity do not need belaboring. What needs emphasis is the other side of the coin.

But the other side is not getting the emphasis. The foundations, which have the great franchise of stimulating creativity, are compounding the emphasis by the way they give money. They too are not against the individual, yet the overwhelming bulk of their research funds goes to large team projects. They can with justice say that this is the way many researchers ask them to give money, but this is only to say also that they are willing to reinforce the status quo.

What is the effect of all these emphases? I am going to table the question of whether the effect is to starve the "lone wolf." This is not an unimportant question; but I think far more important is the effect on the great majority who are not lone wolves. It is easy to say that the great creative minds will be creative no matter what the obstacles, but if we were to grant that this is so we are in effect saying that the environment we provide for creativity is unimportant. This is false. It may be that a few outstanding men would be outstanding no matter what the obstacles; certainly the outstanding genius would not prostrate himself before the group and the mediocre would do it whether anyone asked

him to or not. But in between these extremes lie the great bulk of our talented youth, and how well they exploit their potential depends to a great degree on the moulding effect that organization has upon them.

And how well they are to withstand the pressures. To repeat, the problem is not so much in the inhibitions of organization, but in our acquiescence—in our efforts to rationalize them as virtues rather than defects. The man who is best prepared to express himself in organization is the one who has been intellectually forewarned of the assaults organization will make upon him. This does not mean that he will overcompensate by parading a surface nonconformity. It means, rather, that he has been schooled to respect his curiosity, to be eternally wary of the demands that he sacrifice his own ideals for the team's. Most of all, he should be suspicious of formal efforts to organize creativity—such as brainstorming sessions and collective gimmicks of one kind or another. These are signs of a fundamental weakness in the organization, not strength.

Creativity is inextricably wrapped up with the fundamentals of a man's work. It cannot be turned into a sort of extracurricular creative play period. A man is creative because he has freedom to be creative or makes that freedom, and because he has an overwhelming love for his work. This is the joy that, once tasted, is so precious—it is the antidote to the blight of organization, and in this respect those who are charged with preparing youth for organization have never had a greater challenge.

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