

Free World Agents of Democracy

A free man is the world's best agent of democracy. But where — and who — are the free men today? A provocative analysis of our chances of achieving "true democracy."

by FRITZ ZWICKY

ONE OF THE MOST puzzling aspects of human society is the continuing occurrence of wars among nations, of internal bloody conflicts within nations, and of the periodic enslavement of whole peoples by ruthless dictators. Many reasons have been given for these unfortunate phenomena and just as many cures have been proposed. Since no lasting beneficial results have as yet been achieved, we must conclude that all of the efforts made so far to understand and to overcome war and enslavement must somehow have been fundamentally at fault.

For instance, it has been said that economic strife leads to war, especially when one nation is depriving another of necessary resources in raw materials or is strangling its industries or agriculture by competition, excessive tariffs or the like. There are, however, two obvious illustrations of why even the most serious economic conditions may not necessarily cause war.

In the first place, a country like Switzerland may have

hardly any natural resources and still become, per capita, the richest country on earth. This has happened in spite of the fact that many of the Swiss industries, such as those engaged in the manufacture of watches, embroideries, instruments, and heavy engines, time and again have suffered financial losses and have encountered very great obstacles, because of the confiscation of their assets in dictatorship nations like Nazi Germany and Russia and its satellites. To a lesser degree these industries have often suffered from tariffs, such as the Smoot-Hawley tariff in the United States. Nevertheless, Switzerland has remained friendly with everybody; it has not been embroiled in a war for over 150 years; it has prospered; and it has helped many other countries whose natural resources are far superior to its own.

The second refutation of the theory that economic stresses lead to war is that very few nations have profited from fighting another nation. And if any nation ever did get richer that way, it is in every case obvious that the victor would have done better still if he had used his strength and gone to work in peace to improve his country's and his people's over-all potential.

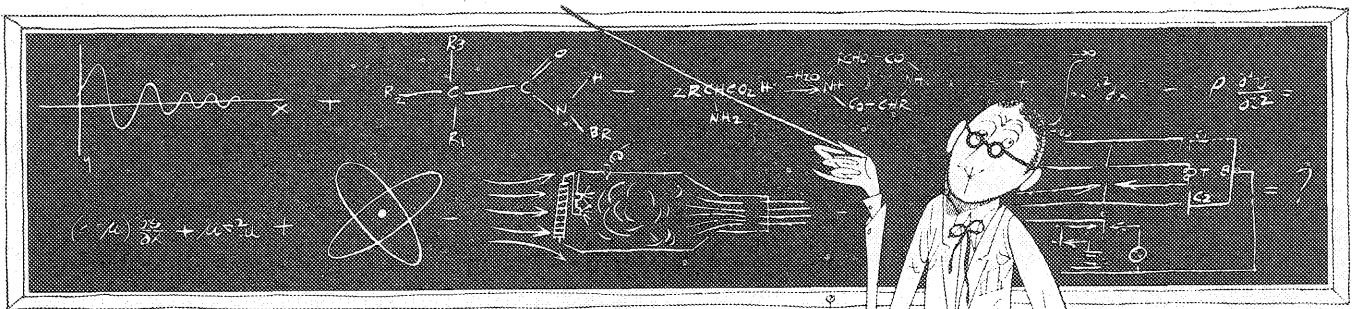
Germany, of course, is the classic example of how a nation may utterly ruin itself. All the claims of German leaders over the past fifty years that Germany was being strangled economically and not being given "Lebensraum" appear now as sheer nonsense. In all major activities Germany was advancing faster than any other large nation. In science, in industry, in national commerce and world trade, in social institutions and in material improvements within the country, Germany, excluding some of the small countries like Sweden and Switzerland, was advancing the fastest and was well on the way to becoming—in the respects mentioned—the most powerful nation on earth, without resorting to bloody conquests.

A similar situation holds true today for Russia, which, without the enslavement of its people by the Politbureau, and the Cominform's intrusion into other people's affairs, would stand an excellent chance of becoming the richest country on earth.

What is it then that made Hitler and Mussolini system-



How can we expect real leadership from "governments made up of politicians who are . . . primarily concerned with keeping their jobs by pleasing their constituents"?



Can science solve the troubles of the world? Few scientists think so. They know that among them exist "many frustrated individuals who seek salvation in the postulation and adoration of self-created values."

atically drive to their doom, killing millions of people and making most of the rest miserable? And what is it that drives Stalin, Molotov and Company along exactly the same path?

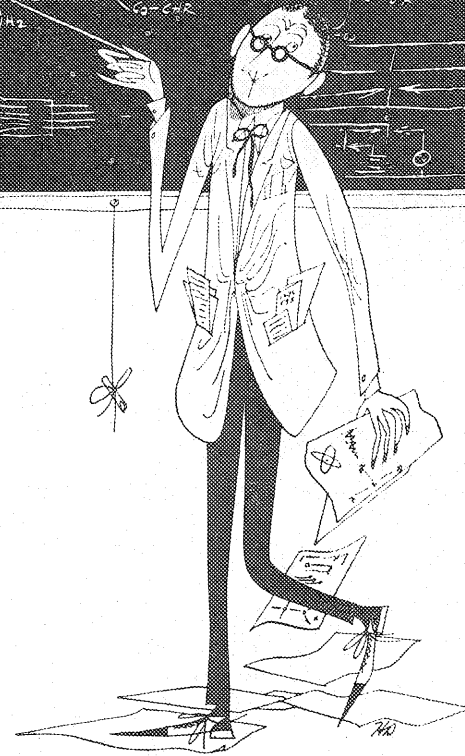
Basically, the answer lies in the utter frustration of men like Hitler, Lenin, and Stalin. These dictators apparently never had one sunny day or even a single sunny hour in their lives. Their personal despair and failure to achieve any real satisfaction and happiness must have assumed such cosmic proportions that abysmal hatred resulted for everyone who has enjoyed even a semblance of happiness. The outlook of these dictators on life was and is pure, never-ending gray, and because of their own misery they must take revenge on everybody. It is now obvious that Hitler had no love for his own people. For Lenin and Stalin the same may be said.

If we take the case of Stalin as an illustration, it is a dangerous illusion to assume that his actions are determined by his chances of winning a war, or of advancing the cause of the Russian people. Not at all. What ultimately sways his decisions is his fanatical desire to mess up the world, to keep it in nervous suspense, and in the end to take satanic revenge on as many happy people as possible, enslaving them and killing them—even if this leads to his own doom and to the doom of Russia. All other considerations and manipulations are only a cloak covering and hiding the real instincts that drive a cosmically unhappy and frustrated man. These auxiliary manipulations serve to maintain the suspense, to conduct a war of nerves, and to lead up to the final revenge in a sadistic orgy of "incidents."

Holding actions are necessary

What specifically causes the gray, hopeless mood of dictators is of course most difficult to know, and any hope to unravel this mystery and in this way to arrive at a cure of the ills of the world appears futile. Generally speaking, one may say that frustrations have their origin in the failure to develop one's genius and in the subsequent vulnerability of one's mind to all sorts of slights and mental injuries. In any event curative measures appear extremely difficult. Before they can be understood and practically applied, *holding actions* will be necessary to prevent the unhappy and frustrated dictators and their satraps from wrecking the world.

Such holding actions obviously can not be effectively devised by governments made up of politicians who are committed to wishful thinking, to the evasion of real difficulties, and to the dissemination of false optimism



because they are primarily concerned with keeping their jobs by pleasing their constituents. Real leadership demands sacrifice on the part of the leader and of those he attempts to lead, and is therefore hardly to be found among men in governments or in political, scientific, social, or religious organizations whose very existence depends on gaining popular support rather than on unbiased truth. It seems hardly necessary to point to specific examples which, during the course of human history, have accumulated like the sands of the sea. Two illustrations, nevertheless, may be given, because their real significance, which I consider very great, is hardly yet appreciated.

Real leadership?

The first example has to do with Mr. Truman's antics in the issue of Palestine. His frantic meanderings and reversals of policy before the United Nations can only be interpreted in one way. Neither the human destiny of the Jews nor that of the Arabs was the motivating factor. The two principal counterpoles considered must have been the question of political votes in the United States on the one hand, and of Arab oil and geographical military potential on the other. No doubt equally objectionable reasons motivated the Soviet attitude. The unfortunate upshot of the whole affair is a tremendous moral weakening of the United Nations, which let its original plans for Palestine be drastically modified by the force of arms, which let its mediator, Count Bernadotte, be assassinated by chauvinistic Israeli hoodlums who are still at large, and which complacently views the final result of many hundreds of thousands of Arab refugees being made homeless and perishing. It is a sad commentary on our ethics indeed, that so many among those who rightly abhorred or pretended to abhor the actions of the Nazis now act in no way



Henri Dunant, founder of the International Red Cross, at the time he won the first Nobel Peace Prize in 1901.

differently. Whenever it suits their purposes they too put might before right.

The only agents who acted humanely and objectively on the issue of the Jewish problem were some small nations and some individuals whom we may call *free world agents* and who, in the writer's opinion, represent the hope of the future. As Einstein stated in his address at the Fifth Annual Nobel Anniversary Dinner on December 17, 1945: "We shall never forget the heroic efforts of the small countries, of the Scandinavian, the Dutch, the Swiss nations and of individuals in the occupied parts of Europe who did all in their power to protect Jewish lives." Men like Roosevelt and Truman, in spite of floods of noble words, never rose to similar actions. Therein lies a typical attitude of hypocrisy which has done the democratic nations no end of harm and which is largely responsible for tragedies like the present advances of communism in Asia and Europe. Therein also lies a lesson for the future. In the future, as in the past, *we must look to the free world citizens and to the small nations to point the way in truly human affairs.*

Science to the rescue?

The second example has to do with the hopes of some unrealistic optimists who imagine that if no other institution can be of help in solving the troubles of the world, there is still science which might come to the rescue. I think that relatively few of the scientists themselves harbor any such illusions. They know that among them exist a great many frustrated individuals who seek salvation in the postulation and adoration of self-created values which are fundamentally worthless.

Again, to give just one example of the hypocrisy of the scientific community, the recent actions of the "American Association of Scientific Workers" headed by Professor A. H. Compton and including H. C. Urey, J. R. Oppenheimer, and others may be mentioned. This Association in the fall of 1940 issued a manifesto or "Peace Resolution" advising its brother scientists against putting their knowledge in the service of military preparedness. This was at a time when England and Greece stood alone against the Nazis, and isolationism in the United States seemed the proper attitude to please the American public. Later, when America became involved and the all-out offensive was the slogan of the day, most of the men of the Scientific Workers joined the band wagon of the scientific war effort. This band wagon, with its cargo of nuclear energy, jet propulsion, and radar, was rolling at a good clip at that time, thanks to those other scientists who also believe in the value of peace but who, in addition, are determined to fight for it at all times with all means at their disposal—including

ing their special and particular scientific knowledge.

The irony and hypocrisy of the whole setup became evident in the decision to drop atomic bombs on Hiroshima and Nagasaki. This decision put the final and ultimate stamp of approval on the use of *any weapon* by anybody who thinks he is right. It was supported most strongly by the same men who before Pearl Harbor made the greatest noise about the perversion of scientists who put their knowledge in the service of the defense of the democratic way of life. To those who have studied the record, and who are not fooled by the glamorous pretenses of the scientific mutual admiration society, the value of science as such for the advancement of the genius of man thus appears highly problematical.

The unattached man

The principal conclusion to be derived from the study of all of these sad aspects of life we have been discussing is that *no* organization, whether it be political, scientific, or religious, may be trusted to act objectively upon the fate of man. History shows that organizations inevitably have cramped the style of life, if not the judgment and the elementary morals, of their members. Any hope to resolve the predicament of the world rests squarely on those *individuals who are unattached and free in every respect, materially and spiritually.* Only these *free agents* are capable of seeing things as they are. Only they are free to act regardless of the consequences.

To the free man all problems become simple because he is happy. To the ideologically attached and restricted man even the simplest problem is difficult to solve because he is frustrated. We shall not discuss here why, under such attractive circumstances, there are so few free men. Suffice it to state that those who are free are the world's best agents of true democracy. They seek to promote the realization of the genius of every individual and of every nation and thus to eliminate the frustrations and unhappiness brought upon the world by the sadism of gray thinkers.

The world has known many free agents—some successful, some not. Paracelsus and Goethe come to mind, Pestalozzi, and Dufour and Dunant, the founders of the International Red Cross. Within our own lifetime Fridtjof Nansen perhaps rates before all others.

The common bond

The free world agent is not only free materially and spiritually, he is bound by no nationalistic ideologies. He is the friend of all whose actions further the realization of the genius of man. And he is the only truly effective adversary of those gray thinkers who in their frustration have become murderers, killing either openly or under the guise of hypocritical doctrines which claim to have the good of the world at heart. The free world agent is not fooled by words, doctrines, or creeds. These to him are immaterial. It is the *actions* of men that count. These are the actions, on the one hand, of actual and potential murders; on the other hand, of those for whom living means the preservation and enrichment of the lives of all men. Still, in spite of these common aims, there is no greater diversity than that of the types of men who are free world agents.

Paracelsus, in the 16th century, was a man much maligned and ridiculed. He was perhaps the first of modern scientists to break through the stalemate imposed on scholars and laymen alike by Aristotle's misunderstood philosophy. He was the first to do basic work

in experimental chemistry, pharmacology and medicine. And he had at heart first and last the physical and mental health of humans of every race and creed. He traveled far and wide, helping and teaching. He stood aloof from and above the doctrines both of the Catholic church and of the Reformation, and he visualized clearly the bloody conflicts which were bound to result from the clash of these doctrines.

Pestalozzi, the greatest son of Switzerland a century and a half ago, became the advocate of general education, the founder of the public school system. His theoretical and practical approach towards education is still a hundred years ahead of our time. Kings and czars paid tribute to him for his work with the orphans of the Napoleonic wars. His memory in recent years has been effectively, and in a most appropriate manner, honored and perpetuated by the founders, Mr. and Mrs. H. C. Honegger of New York, and members of the International and the various national Pestalozzi Foundations. And in Pestalozzi villages today—in Rimini, Italy; Trogen, Switzerland; Five-Lille, France; Waldwies, Germany; and others—children from all nations, left orphans by the recent world war, are being raised in a spirit beyond nationalism of any kind.

Dufour, Dunant and Nansen

Any discussion of free world agents must include that long list of courageous, extranational fighting men of the International Red Cross, with the co-founders, Henri Dunant and General Dufour, marching in front. For one hundred years these men have done their job to alleviate the misery of all combatants, working quietly and effectively in a realm which is beyond the praise or blame of any nation, race, or creed.

Dunant, banker and philanthropist, fought his whole life against enormous odds to have the plan of action of the International Red Cross approved by all nations. Dufour lent Dunant his effective support. A great civil engineer, the first modern cartographer, and a truly democratic military figure, Dufour won a war by superior strategy—without killing anybody. And before his power Bismarck had to back down for the one and only time in his career.

Perhaps the most successful of the free agents is Fridtjof Nansen. A polar explorer and a scientist, he served as peacemaker among the Scandinavian countries in the critical years of the 1890's, worked ceaselessly for the millions of refugees of World War I and created the Nansen passes, formed a huge rescue mission to famine-stricken Russia in 1919, served as mediator in the Balkans and Asia Minor following the war of 1921-22 between Turkey and Greece, and received the Nobel Peace Prize in 1922.

The fact that no good biography of Nansen exists in English must be regarded as an abysmal shortcoming of the Anglo-Saxon "Lebenskreis." He had a deeply human outlook and, before all, the will to transform his convictions and words into action. And what is most important, he had the scientific and technical knowledge to streamline his actions effectively and meet the objections of the ever-better-knowing multitude of scientists and technologists who do not see the forest for the trees.

Goethe wrote of his journey to Switzerland and Italy, "I made the acquaintance of happy people, who are happy because they are whole. . . . That quality I too will and must attain." These people, we should say, had realized their genius and therefore were happy. However, to make a successful free world agent more is needed. Our materialistic society adores specialists.



Fridtjof Nansen, Norwegian polar explorer, scientist, peacemaker, and winner of the 1922 Nobel Peace Prize.

These have made most people believe that scientific and technical proficiency and material success are the most important things in life. They have succeeded in perverting all human values. Real values will be difficult to establish unless the indirect sabotage by scientific and technical doctrinaires can be counteracted. The doctrinaires must be met and over-matched in their own fields.

This, of course, is a large order which can only be filled if ways are developed, more powerful than any hitherto known, to allow man to gain universality and depth of technical knowledge much more easily and more quickly than is possible through conventional education. One such new way is available through the use of the *morphological method of thinking, analysis, and construction*. This method permits man to forge his way into a special field of knowledge, arrive at any point in this field he chooses, and confidently confront any so-called expert in this field. The method, some of whose elements have been used by many thinkers of the past, has been systematized (see box p. 14) only recently and has proved a most powerful tool in opening up vast new fields for human activity. Briefly, it involves the analysis of the totality of all solutions of any given problem, and the construction, regardless of obstacles—such as political, racial, religious, scientific, and personal prejudices and doctrines—of these solutions which, seen in the light of the striving after the realization of the genius of man, seem the most appropriate.

A free world agent then must not only have realized his genius and be a happy man; his genius must happen to lie along the lines of universality and versatility. As Goethe has also said, however, universality is not totality and versatility is not wholeness. Totality and wholeness involve integration. This may be considerably aided by morphological thought.

Morphological thought

For centuries men possessing the attributes of totality and wholeness just happened. They had neither predecessors nor pupils and they only accidentally knew of one another as kindred spirits through the ages. These men were single events whose influence gradually died. Their efforts, unlike the efforts in science and technology, did not bear accumulating fruit. Twenty years after his death Nansen—at least in the Anglo-Saxon world—is essentially forgotten, in spite of his tremendous achievements. Except perhaps for men like Bernadotte, Nansen had no successors, and only pitifully few knew the full scope of his character and achievements.

Evidently the crucial element which would make for the accumulation rather than the dispersion of the efforts of free world agents has been lacking in the past.

Fortunately this element is now slowly but steadily gaining in momentum. It is contained in the idea of *morphological thought and action*.

Morphological thought has already been applied to a number of scientific and technical problems. In addition to this method's providing a fascinating game of systematized invention, the successes gained have served to impress on many specialists, whether they are narrow-minded doctrinaires or not, the surprising fact that the morphological method in the hand of rank outsiders can serve to outmatch the specialists in whatever field this may be. Thus morphologists, without being professionals on jet engines and propulsive power plants in general, on the chemistry and metachemistry of propellants, on astronomy and on the science of war, have produced results during the past decade which no specialist in these fields even dreamed of. As morphologists get into their stride and multiply in numbers, more startling successes may be expected to justify their efforts. They, as a group of men who understand one

another and who do not need to be organized, are then destined to play a decisive role in the realization rather than the destruction of the genius of man.

While Paracelsus, Goethe, Pestalozzi, Dufour, Dunant, Nansen, and many of the great men of the past were morphologists by birth and native genius, they were not aware of the fact that morphological thought and action can to a great extent be systematized and taught to all those of good will and inclination. This then is the first step which we visualize, the *teaching and application of morphological thought*. We thus predict the emergence of university courses on the subject, and of morphological planners in governments and national and international enterprises. Since morphological thought and action are intrinsically the *prerogative of free men*, their development and spread will clearly advance men towards the goals which the democratic peoples and individuals have been attempting to achieve in a more or less muddled way, and therefore with only limited success.

THE MORPHOLOGICAL METHOD

A. Brief Summary

The morphological method is nothing more than an orderly way of looking at things. Its aim is to achieve a schematic perspective over all of the possible solutions of a given large-scale problem.

The method was perhaps consciously applied for the first time during the recent war when it became apparent that not even the richest nation could afford to experiment along all the lines of technical development which presented themselves. In the field of propulsive power plants the method was particularly successful. Because of the forceful incentives provided by the war emergency, not only was the morphological analysis of jet engines carried out theoretically, but also all the means were made available to carry out the results of this analysis in practice. This lucky circumstance contributed largely to the successes achieved, which are embodied in a whole series of remarkable jet engines as well as in the integrated and extended knowledge which was acquired on the whole problem of propulsive power.

How the method works:

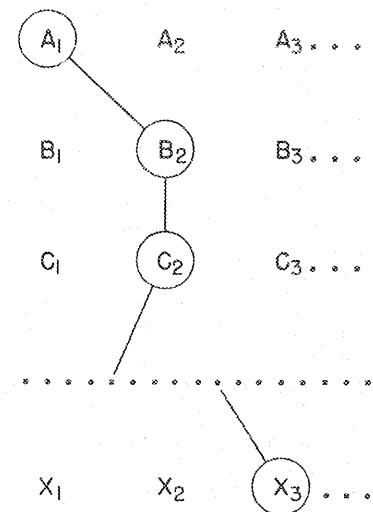
1. A specific problem is formulated. For example, the problem may be to invent, design, and con-

struct a telescope which will make possible certain observations. Instead of asking for a particular telescope, the morphologist attempts to achieve a perspective over all possible telescopes and their performance characteristics.

2. A schematic representation is attempted of the totality of the possible things (telescopes) falling within the category under discussion. This representation is advantageously arranged in terms of significant qualitative and quantitative parameters which are relevant to the problem.

In the case of a telescope, one significant parameter would be the ratio of the energy entering the aperture to the energy absorbed in the recording instrument. Since the entering energy will either be equal to, greater than, or less than the absorbed energy, this first parameter is a matrix of three elements (A_1, A_2, A_3). The second parameter may qualify all the available recording instruments (photographic plates, ionization chambers, photocells, etc.). The third parameter might describe the interaction of the light with the optical parts of the telescope.

Continuing in this fashion, the array of parameters, represented by their matrices, becomes



By circling one element in each matrix and connecting the circles one arrives at a schematic representation of a special type telescope. The end result is a morphological box, or file cabinet, in which each chain of circles either represents one, and only one, telescope or must be ruled out.

3. A performance analysis of all these telescopes is made. Here the morphological method strives toward an evaluation of all telescopes on the basis of very general theorems rather than individual evaluation.

4. Steps are taken to construct and operate all the solutions contained in the morphological box. Limitations of time, means, and manpower obviously demand some choice. This choice, however, can now be made wisely, taking into account the specific problems whose solutions appear most desirable.