

# To prevent another world war: truth<sup>1</sup> detection

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The argument is simple: given matched power, at any level from maximal armament to none at all, opposing nations will resort to actual warfare overwhelmingly as a result of mistrust of the other or of misunderstanding resulting from false information—either suspected or actual.

My solution is to insure that public or other official statements made by key figures are indeed true. This can be done with available lie detection techniques if national leaders will submit to them. Given an agreement to try, the operational procedures and instrumental techniques could readily be tested and perfected in real life situations of lesser moment than international warfare.

The resounding close to Archibald MacLeish's preamble to the charter of UNESCO, "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be erected," is no less true for having become hackneyed. Wars generate and develop and are released from the minds of men, and their objective is to change the minds of other men. Wars are always the result of opposed wills and terminate when one will yields to the other. Death and destruction are unfortunate concomitants to the goal of making an opponent change his

mind. Subversion, trickery, threat, political intrigue, riot, and revolution—all the familiar techniques studied and used by revolutionaries throughout time—may serve the same ends, and sometimes less disastrously. Above outright villainy come the techniques of rabble-rousing, propaganda and hidden persuasion, and the adroit use of mass communication techniques. As behavioral science increasingly reveals (as it rapidly is doing) the springs of human behavior and the means of manipulating these, including the direct attack on the brain by drugs and electrodes and other well-understood biological channels, it will become progressively easier to control men's desires and behaviors.

If men are not successfully induced or seduced into reasonably peaceful situations, when conflicting wills and interests remain insufficiently resolved, resolution of the conflict by force is the eventual outcome. Force cannot be equated, however, with nuclear weapons nor with missile control and range nor with any combination of these and other triumphs of physical science. Other sciences have also offered, and are further developing, their own means of vast and terrible persuasion. The "nerve gases" of chemical warfare, the extraordinarily toxic products of bacteria, even more the possibility of disseminating live virulent organisms able to kill off plant or animal life in great areas, make any solu-

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<sup>1</sup> "Truth is too precious a commodity to be bandied about lightly; it is rather a courtesy reserved for one's friends" (Townsend Harris, ca. 1860).

tion of world stress limited to atom bomb control an untenable one.

Physicists are now quarrelling as to the possibility of detection of bomb explosions and intergovernmental conferences are haggling over the conditions of disarmament and inspection for carrying out such agreements. A solution along hardware lines seems doomed to failure, because of the continuous emergence of new devices and because of the continuing game of each antagonist outsmarting the other. No matter how extensive and practiced the security measures, prisoners continue to escape from jails, and disturbed children to evade their controls. Attack and defense, move and counter-move, cross and double-cross allow the game to go on indefinitely.

If the control of weapon development is unrealistic, what about some regulation as to their use? The proposal that a mathematics of destruction be agreed upon—if you bomb Minneapolis I may bomb Minsk, without further retaliation—is psychologically unrealistic. When emotions are raised to the destruction of one major city they will not ebb with the counter-destruction of another. Given, again, a real equality of power (or what is effectively the same thing, the power for total destruction of the enemy, and the ability to release a counter-blow after receiving an initial one) no rational man or nation would throw his boomerang.

Alas, most of human behavior is irrational, and even rational judgments are subject to error. Unbalanced or insane individuals in groups have come to power in human history, men and mobs have committed incredible acts on the swell of emotions—anger, fear, despair, even exuberant abandon. The ruthless egotist is rather likely to ascend the power ladder and, at the showdown, is often enough willing to yield his life rather than his goal, let alone the lives of others. And even men well within the range of normal can be

misinformed, or misperceive, or misinterpret an event—especially under conditions of heightened fear and mistrust. So did Othello come to choke Desdemona.

Some see safety in increasing the membership of the atoms club. If not two or four but dozens of nations own and can deliver the atom bomb, this is seen as a deterrent to action by any one. I see only increased opportunity for a fatal blunder as more potential blunderers are on the scene. If lethal retaliation by one country is possible, what more can be added by further attack by others? If Castro had nuclear weapons at his disposal, would this constitute an additional restraint on Russia and the United States, or would there be just a trigger-happy source of danger thrown in?

International controls and a United Nations police force? In principle, certainly fine; but always potentially dangerous and seemingly impracticable at present. There is always the question of who shaves the barber; when one *force majeure* exists, human beings are still in control of it and what is to prevent their usurpation of this naked power for their own purposes? This is the recurring experience of Latin America, where the military turns on the state it is supposed to protect. But such military or police revolutions are rare in North America and Western Europe.

Certainly efforts to discover the controlling factors and to achieve and apply new political and social inventions is of high desirability; but I cannot feel that any of these will come soon enough to have a practicable impact in the desperate decades ahead of us. This stricture applies to such concrete suggestions as the following:

1. Instead of mass warfare, abide by the outcome of a limited combat, Hector-Achilles type of solution, on the sport field, over the chess board, in the actual gladiatorial arena, or what not. Nonsense! Exchange members of the families of the rulers of hostile nations;

allow opponents' inspection teams to destroy any violating installations; have an enemy observer sit in the decision-making centers of each country so as to be able to relay back immediate warning of any missile release, etc., etc. These are all gamesmanship moves and all can be circumvented.

2. Manipulate the brains of whole populations, by pills and the like, so as to prevent the build-up of hostile emotions. Perhaps scientifically possible; socially and politically unrealistic and probably unenforceable.

3. Allow individuals in any country to sacrifice national citizenship and voting rights and taxability in favor of United Nations citizenship and vote and taxes. A well-directed political invention; but possible, if at all, only in the far future and with many additional adjustments.

4. Manipulations of the communication channels in various ways—turn over the communication media to an opposing control when war tension reaches a certain measurable level, raise standards of truthfulness and coverage in the mass media, condition the citizenry towards action for the good of mankind rather than for more selfish national goals so that negotiators could no more act selfishly than they could appear without clothes on. All these are goals rather than means; they are not presently possible and are even theoretically dubious.

A brief digression is now necessary, before considering a more promising approach. A pivotal issue in the raging public debate on nuclear warfare is, "What price freedom?" Violent polar positions have been taken by outstanding men from all areas of human excellence. Patrick Henry said, whether or not he meant it, "Give me liberty or give me death." In unvarnished terms, freedom for me means getting my way, just as freedom for you involves getting yours. If our ways are in opposition, some freedom must be lost. If a person wants his way badly enough, and

is willing to sacrifice enough for it, he is likely to get it. The bantam fighter who tears in without thought of pain or odds often enough whips his heftier opponent. The ferocious vole attacks and kills animals many fold its size and strength. An animal, cat or rat or monkey, low in the peck order of its group, will rapidly rise to the top after a brain operation that makes it more ferocious. The story of the Black Connallys of Canada (or that of the Doones of Devonshire) exemplifies an entirely comparable socially induced ferocity, and success.

I am satisfied that the wild and tough animal or man or nation, willing to pay the greater price to get its way, will mostly overcome the tamer and more civilized. Only two or three things can prevent it: 1) biological manipulation or social reconditioning of the aggressor, 2) greater power at the disposal of the tamer antagonist, and perhaps 3) the certain knowledge of death or annihilation to the one who starts the fight. The first solution is far in the future; the second cannot hold when more than one nation has the ability to wreak total destruction on the other; the third returns to the problem of belief.

I have often thought of a Bret Harte story that perfectly illustrates the point. Two pals in a village in the old West were crack shots, a great influence for good and beloved of their townsmen. A minor quarrel sprang up between them, grew into a feud, and culminated in a challenge to a duel. Their many friends tried in vain to dissuade them and the whole town turned out unhappily at the appointed rendezvous. The sheriff made a last minute plea, "Bill and Jack, you are good men and really good friends, and you are damn good shots. You know perfectly well that at 10 paces you will both fall dead on the word 'fire.'" They remained adamant, honor demanded satisfaction. "Well," said the sheriff, "I can't stop you; but if it does

happen that one of you is alive at the end, I swear as sheriff of this township to string him up then and there for murder." The duel was called off.

The problem here is to create such an inescapable power or, if it exists, to convince the potential aggressor that it is there and will be used—whether by the attacked nation or by a United Nations is immaterial. And, even then, as a wild animal may kill itself in trying to escape or as Samson pulled down the temple of the Philistines upon his own body, there may still be situations in which nations would commit suicide.

I think the direction towards a real solution must be not by countervailing force or guile or other move in the strategy of overcoming the opponent; the hope, rather, is in decreasing and eliminating the gamesmanship. Conflicting interests there will always be; the problem is the manner in which they are handled. A few wild men will always appear on the world scene but, unless large masses of men go with them—in which case the situation is indeed hopeless—these can be controlled by force by the greater society, if they are identified in time. Just so are the criminal and insane forcefully controlled by their larger societies. The problem is to identify individuals with hurtful goals and methods. So far as aberrant individuals are concerned, they are relatively few in number and can be identified with reasonable success by available scientific resources of behavioral science, especially psychiatry. It seems not entirely quixotic to expect the leaders of major nations to subject themselves to psychiatric examination by an international panel of psychiatrists at the time of taking office and at occasional intervals thereafter. Their reports could at least give warning to the rest of the world of impending trouble. But this proposal is only on the margin of feasibility and, fortunately, would be important only at the fringe level. A much simpler,

more dependable and acceptable, and easily instituted applied maneuver is the heart of my proposal.

It is possible today, by simply attaching a few measuring instruments to the surface of the body, to detect a deliberate lie. The polygraph has had a wide and increasing success in criminology, although relatively little scientific effort has been devoted to this field. Besides respiration and heart rate and blood pressure, regularly used, such other physiological responses as skin resistance and potential, pupillary size, muscle tension, eye blinks, brain waves, and so on, register emotional responses of a person. A detailed analysis of vascular and respiratory responses, involving not only over-all rate and amplitude and shape of the waves in the continuing train, but also the changes in individual waves or groups in relation to particular questions, or other situations, yields a plethora of information. An inversion of the galvanic skin response, an early phasing of waves from the front of the brain (1, pp. 51-9), increased pupil and lid responses, are related to certain emotional states, and could be harnessed for further differentiation. And the whole situation can be further shifted by innocuous drugs in particular cases.

Although lie detection has found its greatest use so far in criminology, many other areas have been touched with highly promising results; indeed, one of the early applications was to the psychiatric examination and treatment of problem children (5). These techniques have been used successfully in personnel selection, performance checking, claim examination, and the like, by banks, merchandizers, insurance firms, and others.

A department store, suffering great losses from petty thieving, had all employees take a polygraph test. They were told that this was to convince them of its efficacy, and the findings would remain confidential but that

the test would be repeated in six months and would then be the basis for action. On the first test, three-fourths of the workers were found to be pilfering; the subjects must have been convinced of its effectiveness, for on the second round only 3 per cent showed guilt (6). In straight criminal work results have been outstanding; Inbau and Reid (4) report a series of over 4,000 cases, over 95 per cent of which were definitively and accurately judged guilty or innocent. Only three cases were known to be in error.<sup>2</sup>

The main limitations in the technique are associated with a general physiological sluggishness of all responses or with an emotional indifference when the test is not really important to the subject. Both of these can be overcome in many instances by existing maneuvers (6), and there is no reason to doubt that further research could encompass essentially all situations.

The broad problem is to "titrate" human beings so that the inner state can be assessed in other ways than by the spoken word. The flush of anger or cold sweat of fear are familiar indices; and experienced "menschenkenners," let alone trained psychiatrists, become expert at reading the para-language of the body. A labor negotiator knew when he had pushed his bargaining opponent to the last concession by observing pulsations in a neck vessel. In a group of hospital patients it proved possible for six observers to rank order some thirty individuals for anxiety level; the raters agreed with fantastic accuracy ( $P < .001$ ) and were checked by an entirely objective drug test (3). All such measures plus judicious interview and questioning techniques, can certainly be developed far beyond their present efficiency. Probably at present, certainly in the immedi-

ate future with an appropriate effort, adequate lie detecting techniques are or will be available.

As stated, such techniques cover only conscious lies. A psychotic, with the delusion that he was George Washington but knowing that others did not accept this, replied "No" when directly asked if he was George Washington—and the polygraph showed he was lying! But such situations occur in the truly psychotic; even hardened criminals, with very distorted value hierarchies, are caught up by the lie detectors. To what extent a zealot, starting with deliberate falsification, may come to really believe his oft-repeated lies, and how such pseudo-truth can be exposed remain to be explored. I am satisfied that wise testing would reveal the situation, would probably expose particular misstatements, and would point to other persons or cases in which certain answers could be obtained.

The proposal is simply this: all key men, speaking officially for their country in private negotiations or public addresses, subject themselves to lie, or better, truth, detection procedures administered by technicians from an opposing country or from the UN. More positively, when a statesman wished to convince the world that he was making a true statement he would subject himself to truth detection.

Since each antagonist would be able to tell very soon when his own lies were caught, he would soon develop confidence in a technique that revealed them. With growing conviction that false statements would be caught up, spokesmen would tell the truth publicly and their hearers would come to have some trust in the truth of these statements. Do not misunderstand. I am not suggesting that a country can have no secrets from another or that governmental conversations be "bugged." All that is necessary is that statements made to the public or to the adver-

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<sup>2</sup> Lykken distinguishes "guilt detection" from "lie detection" and reports full accuracy for the former (7).

sary be certified as true. In the heat of a speech, one may well make untrue statements and believe them; but this self-hypnosis will not endure through a lie detection interview. Here the public statements can be explored and their truthfulness determined. If the speaker chooses to refuse an answer to a question, this would also be revealing, as when certain witnesses in our courts have taken the fifth amendment.

Even true lack of knowledge can be noted and made a point of departure. Physics and engineering cannot quite detect the explosion of an atom bomb underground. But if a head of state declares that no bomb tests are being made and also gives the source of his information with proven veracity, then his source, say the head of a nuclear development program, can also be queried on the same point. If those who know assert, truly, that no tests have been made, no tests *have* been made. But in many cases the issue is simpler and sharper; Kuznetsov or Lodge must have been knowingly lying before the UN on what happened when our RB-47 plane was shot down by Russia in Arctic waters.

This device occurred to me during a discussion session on the prevention of war in which many of my colleagues at the Mental Health Research Institute participated. A number of the suggestions mentioned earlier in this paper were voiced at that meeting, and undoubtedly many others will be forthcoming if behavioral scientists put their minds to the problem. One other particular device, suggested earlier by Hough and Gordon, was mentioned by Dr. J. G. Miller. When strongly opposing positions are taken, a spokesman for each side is required to state the position of his opponent. He continues to assay this until the opponent accepts the statement as representing his views. When each side has done this, it commonly turns out that the differences are neither so many

nor so irreconcilable as the initial heated statements indicated and resolution often occurs.

Whether the lie detector technique, with or without the inverse debating procedure just indicated, be agreed upon, or still another device, it is not necessary to wait for world-wide acceptance before moving. These techniques could be applied at once to less universal and vital situations, and so their possibilities and limitations can be discovered and improvements made. Labor relations decisions, chancery decisions in court, legislative hassles, even lesser international disagreements—as over the 12-mile territorial limit—could be handled with such techniques on an experimental basis.

My assumption is that men are overwhelmingly of good will, that altruism at least balances selfishness, and that most fracas result less from legitimate conflict or interest than from exaggerated mistrust and fear and the resultant counter-measures. I have presented elsewhere (2, pp. 20–45) at length the evidence for these convictions. Unless cooperation among individuals exceeds conflict, no group or society can survive; and the whole panorama of evolution documents the survival value of cooperation and altruism and its progressive increase in the living world. I do not know whether war is inevitable or not; but the only sensible approach to the problem is to assume that sooner or later it can be eliminated from human action. The other assumption leads only to a fatalistic surrender to annihilation as man comes to exercise ever greater control over the energy and material resources of his world. Man differs from all other animals in the effectiveness of his cerebral cortex, the tool of reasoned behavior; I cannot but believe that a mastery of man comparable to mastery of nature will allow men to live together rather than die together.

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