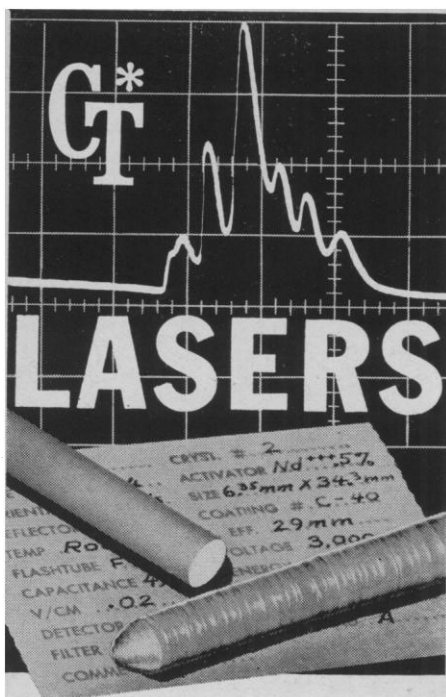




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communism. The Latin-American nations, which feel that they must choose between progress and catastrophe, are pointing out that the millions we gave them have just about covered the cost of the military establishments we have urged upon them. In Cuba, as in China, we helped an unpopular, undemocratic, and corrupt military dictatorship eliminate every alternative to communism—and then wondered why communism took over. It is largely because of our subsidies that Germany has been remilitarized, and that France is ruled by one general who spends most of his time struggling against other generals.

The fact that we are not at war does not prove the impotence of our military establishment: most military leaders sincerely want peace. It was said of Hitler, though, that he did not want war—he merely insisted upon the fruits of victory. It may be said of us that we did not want war—we merely insisted upon an all-out armament race. The question is, Can we have the one without the other?

WILLIAM PALMER TAYLOR

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The Dispassionate View

D. S. Greenberg's account of the Cuban crisis (9 Nov., p. 670) does not reflect the dispassionate, even-handed treatment of data which one expects in the pages of *Science*. I have reference to statements such as "the Soviet gambit in Cuba reflects a capacity for deceit that will amply support those who contend that the Soviets cannot be trusted . . .," or "Bits and scraps of . . . diplomatic intercourse . . . do nothing to improve the Soviets' badly tarnished reputation for veracity."

Both Walter Lippmann and the New York Times reporter Max Frankel published accounts of the famous meeting of Kennedy and Gromyko of 18 October, 4 days before the United States imposed its quarantine. According to both sources, Kennedy never confronted the Soviet foreign minister with evidence of the missiles and bombers in Cuba, even though in his address to the nation the President claimed that the evidence was in his possession at that time. Furthermore, the President told Gromyko that the United States was basing its attitude on the assumption that the build-up of Russian arms in Cuba was defensive. Other New York

Times articles revealed that, prior to the Kennedy-Gromyko meeting, the administration was actively lining up support for a move against Cuba. Duplicity was not confined to one side.

Psychologists and anthropologists have for years called attention to perceptual distortions resulting from ethnocentrism. The actions of in-group members are viewed with compassion if not with esteem, while the same actions displayed by members of the out-group are seen as unjust and reprehensible. As scientists, it is incumbent upon us to recognize this biasing of perceptions, and to take appropriate control measures to negate the effects. This is no less a responsibility in the area of international relations than it is in the laboratory where the ethics of science compel us to view both the positive and the negative evidence with respect to hypotheses. Greenberg's article fails in this respect, from my point of view.

Fortunately, Greenberg provides a clue to one of the essential conditions that may assist in bringing about a healthier relationship between the major powers and reduce perceptual distortions across international boundaries. A portion of his article is an evaluation of the "black box" system for policing a nuclear test ban. He says, "It is felt that in an atmosphere of trust, the black box approach would do nicely for verifying observance of an underground test ban. But if the duplicity involved in the Cuban operation is any indication of Soviet trustworthiness, the difficulties that frequently attend the operation of complex equipment could easily set off charges of bad faith and deception" (*italics added*). May I suggest that the development of trust cannot be guaranteed by any treaty, but underlies all treaties. It grows by evidences of trust initiated by one party and reciprocated by the other. As scientists, we can contribute toward the development of this essential ingredient of arms control by taking a less ethnocentric view of ourselves, and by carefully assessing data indicative of duplicity or integrity on the part of the opposition.

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Berrien is contending that the United States is guilty of duplicity because it did not notify the Russians that it was aware of their attempts at deception. It is possible that he has ascended to a

height where he can view events with unusual dispassion and wisdom, but I do not understand what he is talking about. The fact is that the Russians, under a cover of soothing assurances, attempted to improve their strategic position; the U.S. did not broadcast its knowledge of the situation until it was in a position to do something about it. It is hard for me to see how this sequence of events can support the conclusion that "duplicity was not confined to one side."—D.S.G.

Photo-oxidation Systems with Added Iodine

Some effects of iodine in dilute photochemical reaction systems containing olefins and oxides of nitrogen in air have been described by Hamilton *et al.* (1), who reported that iodine at a concentration of 10 parts per 100 million inhibits or reduces the formation of ozone, and by Stephens *et al.* (2), who found that rates of formation of aldehydes and of peroxyacetyl nitrate were materially reduced by iodine at concentrations as low as 25 parts per 100 million. Some experiments in the laboratories of the Air Pollution Control District, County of Los Angeles, have shown that iodine in similar systems may act to accelerate some of the secondary processes, in particular the consumption of nitrogen dioxide and ozone.

These experiments were carried out in a glass chamber of volume more than 1000 cubic feet, illuminated by mercury lamps and fluorescent tubes. Conventional air monitoring instruments were used to record apparent concentrations of nitric oxide, nitrogen dioxide, oxidants, and ozone; concentrations of iodine were calculated from the amounts supplied, and appropriate correction parameters were determined to account for the effects of the iodine on the instruments (especially the oxidant recorder, which depends on the production of triiodide in a column of potassium iodide). With this system (I₂ at concentrations of 25 or 100 parts per 100 million; ozone, olefins, and oxides of nitrogen at slightly higher concentrations) certain facts were demonstrated:

1) In the dark, iodine and ozone react at a moderately rapid rate, strongly dependent on the iodine concentration.

2) In the dark, the rate of reaction between nitrogen dioxide and ozone is substantially increased by the addition of iodine.

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