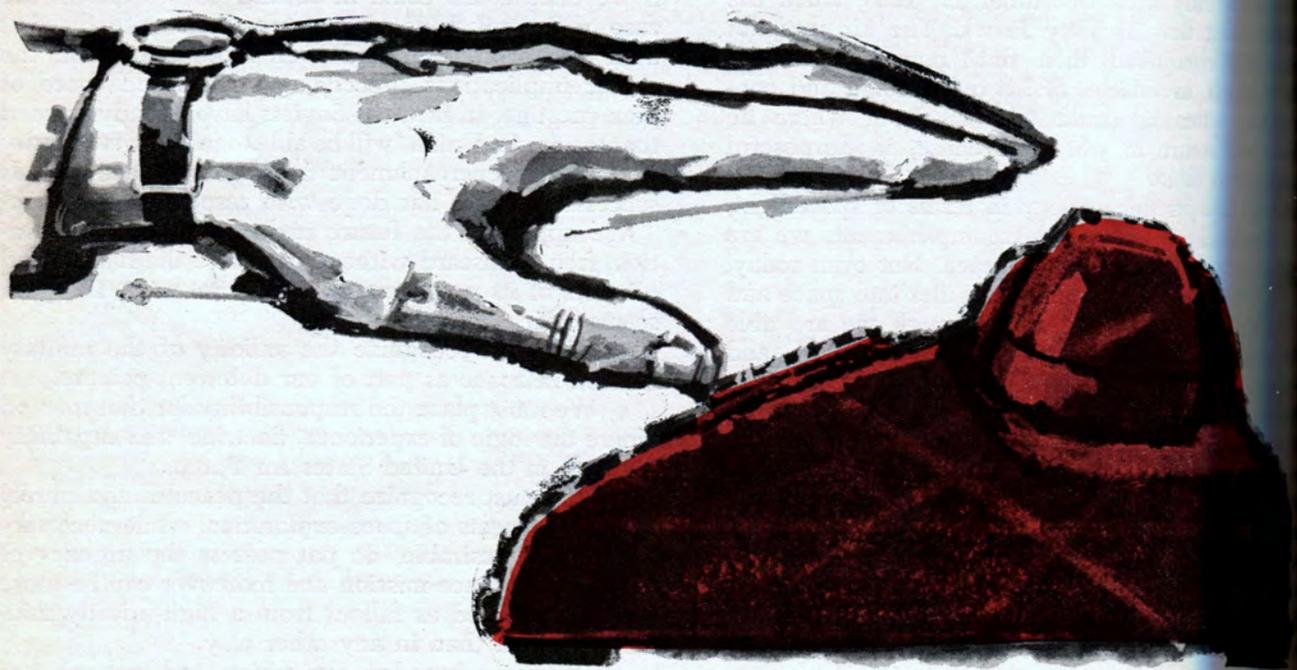


To meet our all-around deterrent requirements, writes the author, we need "strategic forces that do not have to go off like a match in a fireworks factory when the lights start flashing." We need a broad range of deterrent capabilities. We must be able to respond with care, control, and sensitivity. Perhaps most important of all, we must have a force that can survive. With such a force, we can meet the demands of cold war and, if need be, all levels of hot war. Further, we are in a favorable position to combat the very real dangers of "accidental," "preemptive," "false alarm," or mischief-inspired aggressor attack. Such deterrent forces would provide optimum survival insurance in a world haunted by visions of . . .

# METEORS, MISCHIEF, AND WAR



## Thomas C. Schelling

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WAR is too important to leave to the generals, and accidental war should not be left to novelists. But the time being they have it; and while few of them have given a full scenario of how war might start, they have at least been more explicit in print than the analysts.

We have had a number of hints, including some from Khrushchev and his colleagues, that nuclear war or meteors may look like aircraft or missiles in a microscope, and that personnel screening in an emergency (theirs or ours) may not absolutely eliminate a treacherous psychotic. We have had predictions that dictators may soon have the ability to blow us out of our wits with a nuclear explosion here. We have had evidence in the newspapers that a nuclear weapon may drop out of an airplane anytime, though not that one can detonate under any circumstances. But while it is easy to imagine how nuclear war might occur, it is not so easy to trace out how it might lead to war.

### War Flashback

In addition to whimsy inspired by the meteorites and nuclear craters in Arizona and Siberia, we have had a number of fictional efforts to get a war plausibly started. Shakespeare's *On the Beach* has an advantage: We know the aftermath before the origin of the war is revealed. The war being taken for granted, its details can afford to be sketchy and ironic. Still, the sequence of events may illustrate what people have done. Apparently the Russians and the Chinese were plotting for a war, but the initiative came from the Americans who dropped a bomb on Naples; next came a bomb on Tel Aviv, origin unknown. The Americans and British made gestures at Cairo, which resulted in bombs on Washington, which led the Russians to retaliate on Russia. "Somebody had to make a decision, of course, and make it in a matter of minutes. Up at Canberra they think now that they were wrong."

We took the occasion to finish off Russia, and then went after each other with radiological weapons. The only touch in this sketchy flashback is that the

Americans apparently never played a leading role, once hostilities got really started. (The war occurred, incidentally, just about a year from now.) By the time the war was badly out of hand, whoever was making decisions lacked the organization to stop it.

This may be too easy: false alarms, misunderstandings, fifth-country problems, and two of the large countries premeditating war anyhow. With all these ingredients—and a little accelerated technology and dramatic license—the reader may assume a horrendous casserole no matter how they are mixed. But even if it is a caricature, the picture of human error and impotence probably epitomizes the popular notion of "accidental war" and the widespread sensation that the machines are taking over.

*Alas, Babylon*, by Pat Frank, also gets its war started in the Middle East, but the mixture is a little different. In this one deterrence fails because, though we can lick the Russians and we know it, they don't. We also, in this one, have the advantage of "strategic warning"; we know that the Russians are willing to press the issue in the Middle East to the point of general war, but apparently cannot use our forewarning either to attack them first or to persuade them that, their secret having leaked, their chances of success are small. Some interesting dynamics are included: Though the Russian decision is prompted by a Middle East crisis, it is affected by their belief that their forces, though superior, are only temporarily superior and that the opportunity will be gone if they wait until we catch up. Finally, there is at least one inflammatory "accident," an air-to-air rocket that misses its target and falls on Latakia with vivid results. This novel, too, is mainly about the aftermath of war; it is an imaginative study of civil defense and organization, but getting the war started is incidental. The causation is impressionistic; and the role of "accidents" is only hinted at.

### The Brink of War

For a detailed scenario of how war might start, or almost start, we have to turn to the paperbacks. One  
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of the niftiest little analyses to come along is *Red Alert*, by Peter Bryant, which explores the possibility that a really sophisticated SAC general, properly placed, with a few lucky breaks, might get the United States committed to an all-out war with Russia, a war that he believes inevitable but only on highly unfavorable terms unless he can force his country to take the initiative. The sheer ingenuity of the scheme, beautifully analyzed in "realistic" detail, with emphasis on the system rather than on personalities, exceeds in thoughtfulness any nonfiction available on how war might start. The value of the narrative does not lie in the possibility that SAC is so organized that the story could be true; one can suppose that the crucial details have been invented for the sake of the story. What is impressive is how plausible a story can be invented. The author does not frighten us with how loosely SAC might be organized and how easily the system could be subverted; what makes this book good fiction is what makes a good mystery—the author has used his ingenuity to make the problem hard.

The climax, though, is what deserves pondering. The last-minute bargaining by the Russian and American governments, though less plausible than the rest of the book in its details, is a unique examination of the brink of war. As a contribution to the literature on war and peace, *Red Alert* not only demonstrates the occasional superiority of dramatic over logical discourse, but by its example indicts a public discussion that has not got beyond "Prewar Strategy" to Chapter 2, "The Brink of War." If an accident, or a bit of mischief, or a false alarm, or a misunderstanding, can lead to war *but not necessarily*, what makes the difference, if anything, other than luck?

### Accidents or Decisions?

The point is that accidents do not cause war. Decisions cause war. Accidents can trigger decisions; and this may be all that anybody meant. But the distinction needs to be made, because the remedy is not just preventing accidents but constraining decisions.

If we think of the decisions as well as the accidents we can see that accidental war, like premeditated war, is subject to "deterrence." Deterrence, it is usually said, is aimed at the rational calculator in full control of his faculties and his forces; accidents may trigger war in spite of deterrence. But it is really better to consider accidental war as *the* deterrence problem, not a separate one.

We want to deter an enemy decision to attack us—not only a cool-headed, premeditated decision that might be taken in the normal course of the cold war, at a time when Russia does not consider an attack by us to be imminent, but also a nervous, hot-headed, frightened, desperate decision that might be precipitated at the peak of a crisis, that might result from an accident or false alarm, that might be engineered by somebody's mischief—a decision taken at a moment when sudden attack by the United States is believed a live possibility.

Either way it takes a decision to initiate war. The

difference is in the speed of decision, the information and misinformation available, and the enemy's expectations about what happens if he waits. He must have some notion of how much he would suffer and lose in a war that he starts, and of how much *more* he would suffer and lose in a war that, by hesitating, he fails to start in time. And he must have some notion of how probable it is that war will come sooner or later in spite of our best efforts, and his, to avert it. In deciding whether to initiate war the enemy is aware not only of retaliation but of the likelihood and consequences of a war that he does *not* start. Deterrence premeditated war and deterring "accidental war" differ in those expectations—in what the enemy thinks, at the moment he makes his decision, of the likelihood that if *he* abstains we won't.

Accidental war therefore puts an added burden on deterrence. It is not enough to make a war that he starts look unattractive *compared with no war at all*; a war that he starts must look unattractive *even with insurance* against the much worse war that—in a crisis, or after an accident, or due to some mischief—he thinks may be started against him. We have to make it never appear *conservative* to elect the lesser danger of "preemptive" war.

### The Urge to Preempt

There is a dilemma, though. Much that we may do to enhance the danger an enemy perceives when he thinks of attacking us also enhances the danger that he perceives in abstaining and risking a war that comes to him on unfavorable terms. In the frantic and ambiguous climate in which a war by misunderstanding might occur, the enemy is *deterred* by the thought of what may happen to him if *he* initiates war. What can happen to him if *we* strike first does not *deter* him; this can lead him to choose the "conservative" course of striking quickly. Ordinarily our "first-strike" capability may not do much to scare him into preventive war, since he may have little reason to impute surprise-attack intentions to us. But "accidental war" refers to a war that he may begin when he imputes intentions to us that make him too afraid to wait. (Or one that we begin when we think that he expects us to and will not wait to see.)

This whole idea of "accidental war" rests on a crucial premise—that there is an enormous advantage, in the event that war occurs, in starting it, and that each side will be not only conscious of this but conscious of the other's preoccupation with it. In an emergency the urge to preempt—to preempt the other's preemption, and so *ad infinitum*—can become a dominant motive. (The term, "false preemption," is sometimes used; but if both sides "falsely preempt," it is not false for either of them.) It is hard to imagine how anybody would be precipitated into full-scale war by accident, false alarm, mischief, or momentary panic, if it were not for the urgency of getting it quick. If there is no advantage in striking an hour sooner than the enemy, and no disadvantage in striking an hour later, one can wait for better evidence

er the war is on. But when speed is critical, the of an accident or false alarm is under terrible are to get on with the war if in fact it is a war. is the other country! This is the second reason be need for speed aggravates the problem: each omputes to its enemy a similar urgency.

### Accident-Prone or Accidental-War-Prone?

es the accident-prone character of strategic forces e correctly, the *sensitivity* of strategic decisions ble accidents—is closely related to the security e forces themselves. If a country's retaliatory ens are reasonably secure against surprise attack, ptive or premeditated, it need not respond so y. Not only can one wait and see, but one can e that the enemy himself, knowing that one can and see, is less afraid of a precipitate decision, e occupied with his own need to preempt.

It is apparent that there can be quite a differ- between an accident-prone system, and an acci- war-prone system. It has been alleged—to take stration—that airborne alert is more “accident than ground alert for SAC bombers; let us e that it is. Does it follow that airborne alert es the danger of accidental war? With part of e retaliatory force safely airborne we are less com- to take precipitate action in the event of sudden ous evidence that an attack is on the way.

has also been argued that airborne alert is e “reactive” or may lead to Russian false alarms e to war. But there is an opposite tendency, e the Russians can assume that the main motive e American attack would be a fear that the Rus- were in the process of starting one. The more e that we are that we *could* retaliate against a e attack, the less we shall expect such an attack, e less likely we are to jump the gun; the Rus- can be less jumpy themselves.

### Warning vs. Survivability

ere are two ways to confront the enemy with e forces that cannot be destroyed in a sur- attack. One is to prevent surprise, the other is e prevent their destruction even in the event of sur-

ar, satellite-borne infrared sensors to detect mis- e during the burning stage, and the recently re- e “bomb-alarm” system to report nuclear ex- e in this country the instant they occur, will e it is hoped—the few minutes we need to e our missiles and planes before they are de- e on the ground. If the Russians know that we e in a few minutes, and that we will *have* the e minutes we need, they may be deterred by the e effect of retaliation.

er hardened underground missile sites, mobile e, submarine-based missiles, continually air- e bombs and missiles, and so on, are systems that e ally—do not so depend on warning. In terms e ability to retaliate, *warning* and *survivability* are

to some extent substitutes; but they also compete with each other. Money spent dispersing and hardening missile sites or developing and building mobile systems could have been spent on better warning, and vice versa.

More important, they *conflict in the strategy of our response*. The critical question is, what do we do if we do get warning? A system that can react within fifteen minutes may be a potent deterrent, but it poses an awful choice whenever we think we have warning. We can exploit our speed of response and risk having started war by false alarm. Or we can wait, avoiding an awful war by mistake but risking a dead retaliatory system if the alarm was real. The problem may be personal and psychological as well as electronic; the finest products of modern physics are of no avail if the top-ranking decision-maker, whoever he may be, within the time available—is too indecisive, or too wise, to act with the alacrity of an electronic computer.

So the choice between spending money on better warning, and spending money on systems that *depend* less on warning, is a real choice, and one especially pertinent to inadvertent war. And again, we get double security out of the system that can survive without warning: The Russian knowledge that we can wait in the face of ambiguous evidence, that we can take a few minutes to check on the origin of accidents or mischief, that we are not dependent on instant reaction to a fallible warning system, may permit them, too, to wait a few minutes in the face of an accident, and permit them at the peak of a crisis to attribute less jumpy behavior to us and to be less jumpy themselves.

### Arms Control and Accidental War

Accidental war is often adduced as a powerful motive for disarmament. The multiplication and dispersion of ever more powerful weapons seems to carry an ever growing danger of accidental war; and many who are confident that deliberate attack is adequately deterred are apprehensive about the accidental-war possibilities inherent in the arms race.

But there is a conflict—and a serious one—between the urge to have fewer weapons in the interest of fewer accidents and the need—still thinking about accidental war—to have forces so secure and so adequate that they need not react with haste for fear of being unable to react at all, and that the enemy has enough confidence in our ability to be calm to be calm himself. A retaliatory system that is inadequate not only makes the possessor jumpy but is ground for the enemy's being jumpy, too.

It is important to keep in mind, too, that (as in any other business) accidents can be reduced by spending more money. To correlate weapons, accidents, and arms budgets, ignores the fact that the security of, control over, and communication with, one's retaliatory forces is an important and expensive part of the military establishment. For a given number of weapons, more money may mean more reliable

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## METEORS, MISCHIEF, AND WAR

communications and command procedures. Skimpy budgets can mean skimpy protection against malfunction, confusion, and mischief.

But if we get away from the notion that arms control means simply the elimination of weapons, and search instead for cooperative arrangements that may reduce the likelihood of war—whether they cost more or cost less, involve more weapons or less weapons (or just different kinds of weapons)—and if we recognize that the security we and the Russians both can achieve may be enhanced by some kind of cooperation, there probably are things to be done jointly to reduce the likelihood of “accidental war.”

This was stressed by Secretary Herter in his speech of February 18. He pointed out that “observers might prove useful, during a major crisis, helping to verify that neither side was preparing a surprise attack upon the other.” “Other arrangements,” he said, “for exchanging information might be developed to assure against potentially dangerous misunderstandings about events in outer space.”

To be sure, it is not obvious that observers could prevent “miscalculation”; furthermore, to the extent that observers help an enemy target one’s own retaliatory weapons, or help the enemy to know when they are momentarily disabled for one reason or another, observers could be harmful. Nevertheless, exchange of facilities for some kinds of surveillance and warning can perhaps improve both sides’ warning systems, particularly with respect to false alarm. Furthermore, in the event of literal accidents, or possible mischief by a third party, there may be an important *reassurance* process by which we and the Russians could verify—if not just what kind of an accident it was—at least that neither of us was reacting on the assumption that it was more than an accident. Just alerting the enemy to the fact that an accident has occurred, asking him to sit still until the dust settles, letting him know that we know it was an accident, may cause him to react with less alarm than if he had to guess what was going on and how we were interpreting it.

### Synchronized Relaxation

An important problem, if an emergency ever arises, will be working out a synchronized relaxation. If both we and the Russians, in the face of some accident or incident, recognizing that war may be imminent, go temporarily on an extraordinary alert status, the question of who relaxes first can prove a genuine problem. Each side, as long as it maintains extraordinary alert, may substantially deter attack; but each is in a good position to attack if the other prematurely relaxes. Furthermore, a posture of extraordinary alert may be one in which misunderstandings, false alarms, and literal accidents, are more likely to occur, and are more likely to be interpreted as significant. Facilities for quick negotiation of a synchronized relaxation could be extremely important; equally important would be having thought ahead of time about what kind of relaxation schedule would be both acceptable and re-

assuring to oneself as well as acceptable to the other.

Finally, under the circumstances each side might submit to kinds of surveillance that would be intolerable, unpalatable, or too expensive, in the ordinary course of cold-war mutual surveillance. Being able to improvise, or to call into action some available facilities and personnel, when the motives on both sides are to demonstrate compliance sufficiently to gain some understanding possible, could be of crucial importance. Assuming both sides are aware that the emergency is over, but both recognize that they are trapped in extremely unstable positions, each might submit temporarily to a surveillance that ordinarily would never agree to, on condition that the other would temporarily do likewise.

It is difficult to describe such emergencies in advance and to predict the status of forces on both sides sufficiently to design in advance an ideal inspection scheme that could be called on under such circumstances. But some adaptable, flexible facilities and personnel, available to see with their own eyes what the host country invites them to see and to report authentically at home what they have seen, with the host country’s motives are to provide evidence sufficient to reassure the enemy, is a worthwhile idea and not a terribly expensive one nor one that necessarily involves acute political difficulties.

### “Crash” Disarmament

The “accidental war” contingency also suggests that arms control of a serious kind may eventually come about, if it ever does. There is presently no evidence of serious belief among the leaders of the USA and the USSR that arms control offers an important alternative to a grave danger of war. There is no desperation on either side, hardly any urgency, little imagination, much attention to short-run propaganda, and too little logical consistency between each side’s disarmament proposals and its national security policies to suggest that we are near a turning point in the history of arms control.

Things would be different if an accident, a false alarm, or a misunderstanding, sent us both hurtling to the brink of war. It might not be easy, or even possible, to return to the *status quo ante*. One thing that currently keeps the balance of deterrence somewhat stable, reduces the fear of preemption and hence the urge to preempt, and reduces the incidence of false alarms, is sheer inertia, lack of initiative, lack of imagination about the reality of war. But if an actual crisis occurs, and both sides demonstrate unmistakably that they are prepared to go, or may get drawn to the brink of war, and that they now attribute to each other a readiness to attack, the situation will be altogether different. This would be especially true if in the emergency both perceived that the only thing restraining the other was a temporary (and perhaps not durable) superalert status that had made surprise momentarily impossible, and that each would proceed henceforward on the assumption that the other would strike at the first good opportunity.

These circumstances both sides might recognize the balance of deterrence had become genuinely reversibly unstable. It is at this point that "crash disarmament" might suddenly become an important alternative to a nearly inevitable war. Just getting from the brink may require collaboration; but negotiations have been permanently altered, and once has been destroyed, more is required.

"More" is presumably an improvised, but possibly permanent, synchronized establishment of measures to safeguard against surprise attack, more potent and drastic than any that have yet been considered—if on the occasion any such measures are needed and have been sufficiently anticipated to be

an arms control is suddenly desired it may not be able to wait. Preparing, in ideas and material, for a contingency—for a sudden improvisation of arms control—could be crucial on the occasion when arms control becomes a possibility and a necessity.

## Measuring the Consequences

The anomaly of "accidental war" is that if it occurs the enemy or both may know that it was accidental or at least suspect that it was. This could affect our punishment. We might feel less vengeful in retaliation and more concerned to preserve the United States if we thought that the war had been provoked by an accident or misunderstanding (and especially if we had been the ones to start it).

The question matters is whether this affects the way we conduct the war. If the concept of "accidental war"—or whatever we choose to call a war that is initiated altogether deliberately—has any meaning, it probably a war in which our urge for revenge and punishment is less than our urge to curtail the consequences of the error, regardless of whose error it was. The subject, in the event war should come, is to save the interests of the country as possible and to provide for our security, we should think not only about how to deter war, and how to enter it most effectively, but how to terminate it to best advantage. One possible strategy is to strike at the Russians in their cities, punishing millions of them for the misdeeds of their leaders. Another is to go after their military leaders. Another is to go after their military leaders if we know where they are and can get there without too much trouble, hoping to destroy them before they can do us further and hoping to reduce the enemy's military impotence. But a valuable asset, in case we are attacked, is live Russians rather than dead Russians and our own unspent weapons. The threat of punishment can still do to the enemy may be our greatest strength. If we failed to deter his initial attack (or if his initial attack was ours) we may still deter his initiation of a war that he has already lost, or of a war in which the best he can do is break even. Especially if the war started by an "accident," or if the enemy was attacked for fear that we were about to attack them, our interest in punishment should be less than our interest in ending the war and disarming the enemy by the threat of continued action.

This possibility is most plausible if we recognize that, contrary to popular expectation, the enemy may feel that he cannot afford in his initial strike to waste valuable weapons on low-priority targets like American cities—at least if we have so located our strategic forces that he does not have to destroy our cities in his vain (or successful) attempt to get them, and if we have made some provision for protection against fallout.

Not only might cities be low-priority targets in the strategic sense, but he may go to some risk to avoid them if he thinks we can recognize his restraint and react to it. Just preserving some choice for this contingency—just being able, if we wish, to fight anything but a war of extermination—to keep open the possibility that we can demand his surrender or disarmament, limit the general war and bring it to a close, requires that we have the military ability to do more than go after the enemy in a single spasm, and the organizational ability to communicate something more than a quick "go" signal to our strategic forces at the instant war seems to be on. It requires that we be able to preserve some of our forces and our control over them for hours, days, or longer.

(This, of course, does not mean no retaliation. It may mean a more sophisticated course of retaliation than is usually assumed, retaliation in impressive but measured doses, and in a meaningful pattern that preserves with each act of punishment the promise of more.)

There is a genuine dilemma. If we appear to be capable of conducting a war with control, capable of withholding damage to use the further threat of it in coercing the enemy, capable of responding to how he conducts himself in a general war, and conscious of the possibility of "intra-war deterrence," we possibly weaken our "prewar deterrence." We may encourage the enemy to reduce his estimate of the "cost" of general war, by lowering the risk in case things go wrong. Just being able, for example, to accept his surrender may suggest that surrender is the worst outcome he has to consider in deciding on war. While this is a valid argument, it is not necessarily conclusive.

Even for "prewar deterrence" it is not obvious that the most effective threat is instant punitive destruction without regard to ourselves. To deter or forestall the unpremeditated attack—the "preemptive attack," or the "accidental," "false-alarm," or mischief-inspired attack—we ought to cultivate the enemy's belief that we shall respond to what may be the opening moves in a general war with deliberate care and control and sensitivity to what is going on, not with an instant, all-out, indiscriminate effort to destroy all the enemies who may have been involved.

So if we want to avoid foreclosing the possibility of using our surviving retaliatory capability as an instrument of coercion; if we want to retain an option of limiting the war; even if we just want to be able to receive the enemy's surrender in case his attack goes badly; we need strategic forces that do not have to go off like a match in a fireworks factory when the lights start flashing.—END