LAW & ORDER Ben Bova

The fifteenth anniversary of the Space Age slipped by last fall with hardly a whisper. October 4, 1957 was the day Sputnik I was launched.

The whole world was stunned that autumn day. And in a way they never expected, the Russians themselves were surprised.

By orbiting their satellite over various national territories without first getting permission from the nations involved, the Russians inadvertently established the concept of "freedom of space." Thus, while you cannot fly through a nation's airspace legally without the nation's prior approval, you can fly a satellite over it without even telling the nation you're doing so.

Within a few years of the first Sputnik, American satellites were leisurely cruising over the Soviet Union, photographing missile sites and everything else visible to the best optics systems that the U.S. Air Force could buy. There was no risk of a Francis Gary Powers fiasco; the Russians couldn't shoot down our satellites and even if they did, there was no one aboard to capture or kill, and the damaged "bird" would burn up completely if it ever re-entered the atmosphere.

The Soviet government complained bitterly about the American spies in the sky. But the precedent had already been set:. Satellites can overfly any nation on Earth, and the overflown nation has no legal way to stop it. International law, like most legal systems, depends heavily on precedents. Once the Russians established the freedom of space, they couldn't turn it off again. It was there for everyone.

Pretty soon Soviet satellites were busily photographing our territory and a sort of parity was achieved. Both sides now feel that they can watch the other guy closely enough to make him stick to the arms limitations agreements that have been signed recently.

Of course, the Russians have shown what appears to be a capability for destroying satellites in orbit. Several of their own Cosmos satellites have been suddenly shattered into nothing but debris after passing within hailing distance of another Cosmos-type satellite. The U.S.S.R. has not used such tactics on any satellites but their own, but the suspicion of our aerospace people is that the Soviets could destroy our "eyes in orbit" when they want to.

Presumably they won't choose to do so. Not until the moment before they launch an all-out nuclear strike. They're just holding onto the capability to stick their fingers in our orbital eyes for those critical few moments—or hours—before The Button gets pushed. International law won't have much to say about it, because after The Button is pushed, the lawyers and anyone else left alive take a quick trip back to the Middle Ages — if we're lucky.

Wait a minute. There's a treaty prohibiting weapons in space, isn't there? And it has the force of international law, doesn't it? The answer is a partial yes. That is, both sides will respect the treaty as long as it's to their advantage to do so. If we thought that our national interests were being threatened, and the only way to stop that threat was by putting weapons in orbit, the treaty on space weaponry would join all the other famous "scraps of paper" that get tossed into the wastebasket just about the time the shooting starts.

What's more, the space weaponry treaty refers only to "weapons of mass destruction," which means nuclear weapons. All the signatories to the treaty have agreed not to stash nuclear weapons in orbit. The famous satellite bomber of many science fiction stories is strictly outlawed.

Well, almost. Again, the Russians have shown an enviable finesse in sticking to the letter of the law and getting their own way at the same time. They seem to view the world much in the same way that those aliens of Gordon R. Dickson's, the Dilbians, do. The Dilbians never tell a lie yet somehow never seem to tell the exact truth, either. (And-is it coincidental that the Dilbians are giant bearlike creatures?)

The treaty barring nuclear weapons in space is quite specific. It says that weapons of mass destruction may not be placed in orbit. ICBM's spend most of their mission life in space, but on a trajectory that intersects the Earth's surface at some target area; they don't go into orbit. Now, if you make that trajectory long enough, you can make an ICBM that soars around the Earth almost all the way. It flies on a fractional orbit—it never completes one whole revolution around the Earth.

The U.S.S.R.'s Fractional Orbit Bombardment System (FOBS) does just that. A FOBS missile can be launched southward, for example, and swing around Antarctica to head for the U.S. by way of Mexico. With all our radars and ABM systems pointed north to halt a conventional ICBM attack, the FOBS warhead can re-enter and strike without much opposition. Or much warning. There'd be no way to know if the FOBS bird was a peaceful satellite or an actual weapon, until it began to re-enter over an American target. Then we'd have about thirty seconds to call the lawyers.

Our own Air Force has taken a dim view of the FOBS idea. SAC experts claim that the accuracies of the FOBS system can't possibly be as good as those of conventional ICBM's. Thus, while ordinary ICBM's can be used for "pickle-barrel" pinpoint attacks on enemy missile silos and airfields, the FOBS warheads could only be used against much bigger easier-to-hit targets. Like cities. The fact that the experts who make these reassuring noises tend to work at airfields and missile sites, rather than in large cities, has nothing to do with their judgment.

Getting back to the Soviet anti-satellite satellite (SASS?) it doesn't use nuclear weapons anyway, so it's still quite legal. To destroy an orbiting satellite, a well-placed bean-bag will do the trick. After all, the satellite is winging along at orbital velocity—better than twenty-five thousand kilometers per hour. Hang some buckshot in front of it or even better, throw the buckshot at it from the opposite direction at the same speed—and you've got a shredded satellite. No violation of any laws, international or geophysical.

Which goes to prove that when men really have a reason to do battle in space, they'll have the weaponry, even if they don't use nukes. The rapidly-growing art of high-powered lasers will no doubt be added to the arsenals of both the U.S. and U.S.S.R. Lasers will be ideal space weapons, sooner or later. They are pinpoint weapons, not mass-destruction type. And in space, most of the limitations placed on lasers by atmospheric distortions of the beam and absorption of the beam's power will be completely removed. Space is *the* domain for laser weapons.

The real reason why international law prevails in orbit is that both of the competing nations have found it more to their advantage to obey the law, such as it is, than to violate it. When the time comes that they think it's to their advantage to flaunt the law, they will. Because there is no way for international law to be enforced in orbit (or on Earth, for that matter) except by the direct conflict of one nation against another. And that's not law enforcement. That's war.

The "freedom of space" sounds much like an older and more honored tradition, "freedom of the seas."

For more than a century, the nations of the world have operated under the tacit agreement that the oceans are open to travel and exploitation by anyone. The right to engage in commerce and to reap the resources of the sea (mostly fish, up until recently) has been open to all nations.

Of course, all nations have insisted on keeping their national sovereignty rights over the waters immediately adjacent to their shores. Territorial waters are controlled by the individual nations, and

different nations define the limits of territoriality in different ways. To some nations it's three miles off their coasts, to others it's two hundred kilometers. The current trend is to extend the claim to territoriality toward the limits of the continental shelves, and this trend is causing international conflicts and headaches for the World Court, which is the only international arbiter that has a chance of settling such disputes.

Let's back up a bit. Early in the Nineteenth Century, the United States fought with both France and Britain over the right to freedom of the seas. Engaged in a bitter, centuries-long struggle against each other, both France and Britain stopped, searched and seized any ships that they thought might give aid or trade to the enemy. American ships were stopped. American sailors were forced to join the crews of foreign ships.

We exchanged shots with the French, but eventually settled the affair with diplomats—international lawyers. But with the British we engaged in the fiasco called the War of 1812: the first war that America didn't win.

When the shooting stopped, Britain was absolute master of the high seas. An English-led coalition had finally subdued Napoleon, and a Pax Britannica settled over Europe and North America. The British wisely decided to make a stalemate peace with the stubborn "Colonials," who capped the whole miserable affair by decimating a British army attacking New Orleans two days after the peace treaty had been signed in Belgium.

When you're Number One, you may not try harder, but things tend to go your way anyhow. The British quickly realized that their island nation depended on seaborne commerce. So they grandly fostered the concept of freedom of the seas. To the victorious English, this meant that they had a right to sail wherever they pleased and trade with whomever they desired. International law is always written by the winners, like all law. This time the winner created a situation that benefited just about everybody—but especially themselves. That's called wisdom.

For more than a century, freedom of the seas was assured by the ascendancy of the British fleet. By Teddy Roosevelt's time, the U.S. Navy was strong enough to help bolster the British. Then came World War II. At the end of that war, the entire world's seas were literally *mare nostrum*. There was no naval power on Earth, nor any combination of fleets, that could dare to challenge the U.S. Navy. Freedom of the seas was ours, and we generously continued the earlier tradition and shared this freedom with the world, under the knowledge that this freedom wouldn't work unless everyone had a share of it. (All freedoms tend to be that way.)

But over the past few years, this grand concept has started to fold up like a prizefighter who's taken too many punches on the- chin.

What has happened is like something out of a science fiction story. The world's nations have discovered that there's wealth in "them thar oceans": food, oil, natural gas, minerals. Pushed by the pressures of exploding populations, many nations have hugely expanded, nationalized, and modernized their fishing fleets. The Grand Banks off Newfoundland are now the scene of a not-always-quiet competition among the fishermen of a dozen nations, some of them from as far away as Russia and Japan. The Americans and Canadians, who've long considered the Banks as virtually their private domain, are now being muscled around by the newcomers in their shiny, efficient factory ships. The World Court is listening to case after case of alleged interference, damages, actual fights.

Meanwhile, nations such as Peru are extending their claims to territorial rights for hundreds of kilometers from their shores. This is to "capture" the rich fishing grounds off their coasts and drive away the gringo fishermen. Then there's the discovery of rich oil and natural gas deposits in ocean areas that were open to all nations—until the discoveries. Right now, the North Sea is being carved up into spheres of influence

by the British, Dutch, West Germans, *et al*, much in the way Africa and the Orient were dissected by the European empire builders of earlier centuries.

There is no British fleet capable of guaranteeing freedom of the seas anymore. And Britain's not much interested in the idea at present. The American Navy is being challenged by the new and fast-growing power of the Soviet fleet. And the days of battleship diplomacy are long gone, in a world where a confrontation anywhere can result in nuclear hell half an hour later.

So the fond old order of freedom of the seas is going the way all laws go when no one enforces them. Just as the concept of freedom of space will disappear as soon as space-faring nations decide it's in their best interests to ignore the law.

The basic point is simple.

Law and order are lovely concepts, but they work only when *all* the parties involved get something out of the arrangement. Of course, a vastly superior force can impress its will for a while on a smaller, fragmented, or unprepared opponent. But that's not law and order. That's military occupation of a conquered territory. Sooner or later the occupation must end; often it ends in bloodshed.

To make law and order work, to make law and order mean something more than mere words — whether it's in orbit or on the high seas or in your favorite downtown ghetto—then all the parties to the situation must derive some benefits from the system. The law must be enforced, fairly and without favor. But all parties involved must have a stake in maintaining the order.

Without law and order, human beings are much like those missiles waiting in their silos for The Button to be pushed. And law and order cannot be one-way, conqueror to slave. Not for long. To make a legal system work, all the parties involved must work at it. When a nation decides to claim extra offshore territory, or to deny the freedom of space to another nation, the international system of law and order breaks down. War is on the way. Those nations have decided that they stand to gain more by asserting their individual rights, than by observing the rights of other nations.

And when people ignore the law to incite riots, to bug telephones, to beat up kids and then charge them with resisting arrest, to pelt firemen with stones, they're creating anarchy and tearing down the protections of a legal and orderly society.

Many people utter the words "Law and Order" as if they were sacred. Damned few people live up to them. THE EDITOR

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