Tactics and Technology Use: Technological Evolution - Provisional Irish Republican Army (PIRA)

The evolution of the Provisional Irish Republican Army, or PIRA's, bombing campaign in Northern Ireland and in England from the 1960s to the 1990s really illustrates firstly, the simplicity of bombs, but then also shows how terrorists themselves have to change and adapt when they're presented with very formidable and indeed very complicated countermeasures. In other words, for all terrorist organizations, they will seek to use what works. And when it ceases to work because of government responses or barriers placed in their path by governmental counter measures or actions, they'll then modify or change in order to obviate or overcome those same counter measures.

So for example, in the late 1960s, the first generation of PIRA bombs were extremely crude and unsophisticated. It was essentially some sticks of dynamite stolen from rock quarries or from construction sites that were lashed together with some electrical tape, attached to an ordinary alarm clock as a timer, or sometimes with an ordinary fuse that had to be lit. The bomber himself often had to reveal himself to actually throw the bomb at the target. And that obviously created tremendous risk, because the bomber, by revealing himself, left himself liable to be shot and killed by the British soldiers or by the Northern Irish police against whom the attacks were being directed.

The IRA embarked on a quest to develop a safer means, a standoff means, to deliver that same explosive attack. And what they initially used is what's called command wire detonation. In other words, they took a bomb, they placed it alongside a road, let's say. They waited for a police car, or a police Land Rover, or an army convoy to come by. And then you'd have a terrorist waiting just over the hill with a detonator. He'd push the plunger in the detonator. It would send an electrical charge across that cable that would then detonate the bomb.

But of course there were problems with that, as well. Because immediately upon an explosion such as that, the police and the army got smarter. There would always be a chase car, or a second car, or a helicopter overhead, that then immediately following the explosion would descend on the bomber, and perhaps the team supporting him, and apprehend everyone. So that wasn't very effective either.

So what was the IRA to do, or what was PIRA to do? Don't forget, these are not people that necessarily went to universities, that didn't work in state of the art billion dollar laboratories, that didn't have PhDs or advanced degrees in engineering and the sciences. This was the old adage, necessity is the mother of invention. And someone had the idea of going into an ordinary hobby shop where they sell model airplanes that were radio controlled.

Well the IRA took that same off the shelf technology, and they put the radio receiver that was in the small plane, model plane, they attached that to the bomb. And then from a distance, they took the control box that was in essence the radio that sent the signal. And therefore, from a distance, without using a command wire, very cleverly concealed, they were able to detonate their bombs through radio signal.

Presented with this threat, the British Army and the British Ministry of Defense responded with a very effective countermeasure to jam those radio signals. Well the IRA was again frustrated. What did they do? Did they wring their hands? Did they give up? Did they decide they're going to stop attacking British troops or Northern Irish police forces? No. Once again, they returned to the drawing board and they came up with a new idea of how to detonate bombs not even using remote control radio devices.

What they did is, following developments in the United States, for example, where in many magazines you see advertisements for radar detectors. They would get one of these radar detectors that, of course, you put on the dashboard of a car. And when it detects the radio signals of a speed trap, it immediately beeps. Well they would attach the radio detector to the bomb. And then they went out and bought an ordinary radar gun. Exactly the same type of radar gun that police forces throughout the world use.

They would position the radar detector on the bomb, park it wherever they want or bury it wherever they want, and then from a safe distance switch on the radar gun and fire what's an invisible, almost instantaneous beam of light to detonate the bomb.

So what this tells us is that the quest for terrorists to constantly overcome or defeat the counter measures put in their path is a perennial aspect of terrorism today. And the terrorists themselves don't have to be terribly technologically sophisticated. They know that they only have to remain a step or even a half step in front of the counter-terrorism technology curve to succeed. And that's what tends to drive sophistication and innovation.