



ZMAN interviews Israel's pre-eminent elder statesman, former President Shimon Peres, and hears from him firsthand his unique, leading role in Israel's acquisition of a nuclear deterrent. Israel's nuclear weapons arsenal is an open secret. Despite the secrecy, a lot is known about its history thanks to crack investigators and journalists who have combed through publicly available and declassified documents. Now, ZMAN has combined months of in-depth research into Israel's nuclear history with a lively personal interview with Shimon Peres. We even asked him if he would finally admit the key part he played... Read his answer (sort of) and the dramatic events surrounding the nuclear weapons program he is credited with fostering.

The Israeli Nuke

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That Doesn't Exist... Or Does It?

The Old Man knew, with total clarity and focus, that he wanted an atomic bomb. This thought was beyond absurd. It was an insane dream. But in the mind of David Ben-Gurion, it had taken the form of an unshakable vision.

The celebrated political and military leader stood at the helm of a ragtag, if determined, fighting force, battling for a country that didn't even exist yet. At that moment, the United Nations was debating whether to offer the Jews of *Eretz Yisrael* a tiny, patchwork parcel of land carved out of the British Mandate for Palestine. And even if the UN did vote for the creation of Israel, there was no guarantee that the Jewish population would survive the Arab onslaught that was sure to follow.

And now, Ben-Gurion had the audacity to plan for the development of nuclear technology?! The idea that the tiny nation of Israel, no more than a speck on the world map, a nation of farmers and Holocaust survivors, should try to make a nuclear weapon—was ludicrous.

Any country pursuing nuclear weapons must pass through several major stages of development. Each stage brings with it tremendous difficulty, cost and risk of detection by other countries. The knowledge needed to unleash the tremendous atomic energy bottled up inside the uranium atom was a secret jealously guarded by the United States and its most powerful allies. Any unauthorized nation that the US suspected of pursuing nuclear technology would soon be slapped with swift and harsh sanctions.

The final stage—producing a working nuclear bomb—had only been achieved by the United States... and only after spending seven years and billions of dollars in development under the direction of the world's top nuclear scientists. At that moment, even Russia did not possess the secret of the bomb.

The first step for a nation that wants to manufacture nuclear weapons is to build a nuclear reactor. This is a chamber where neutrons are fired at atoms of uranium-235, which then split apart in a safe and controlled way, creating a vast amount of energy. The reactor is used as a source of electric power. But even a country that succeeds in building

a nuclear power plant is nowhere close to being able to produce a nuclear bomb.

The next stage is uranium enrichment, a highly sensitive technology that was strictly classified by powerful countries like the US, Britain and France. Natural uranium is only 0.7% enriched. Most nuclear power reactors require 3-5% enriched uranium. The sales of even this low-enriched uranium were carefully tracked and monitored. Nuclear weapons require 90% enriched uranium, which must be produced in specially designed plants.

Even at this stage, having uranium enrichment technology is a far cry from being able to manufacture a nuclear weapon.

The next stage was even more tightly controlled at the international level. This was the technology that allowed the extraction of plutonium from a nuclear reactor. Plutonium is used to create thermonuclear bombs, which are much more powerful than uranium bombs. Extracting plutonium from a reactor is extremely complex and technically difficult. Any country discovered to possess such technology would immediately be suspected



Ben-Gurion in his Jewish Legion uniform, 1918. He fought with the British against the Ottomans in World War I.

of working toward building nuclear weapons, because unlike a reactor that can be used to provide power, the only logical reason to invest in plutonium extraction technology is to make a weapon. The international community would place harsh sanctions against that country, meant to force it to give up its plutonium extraction program.

But even highly enriched uranium and plutonium sitting on shelves in the laboratory do not constitute a nuclear weapon. Far from it. At the final stage, scientists and engineers must painstakingly design a device that can be delivered on a long-distance rocket or dropped from a plane. The warhead must contain the precise ratios of nuclear materials and the proper equipment to initiate a nuclear explosion. If the scientists get these calculations wrong, then a bomb that cost millions of dollars may simply drop to the ground like a piece of lead without causing any significant damage.

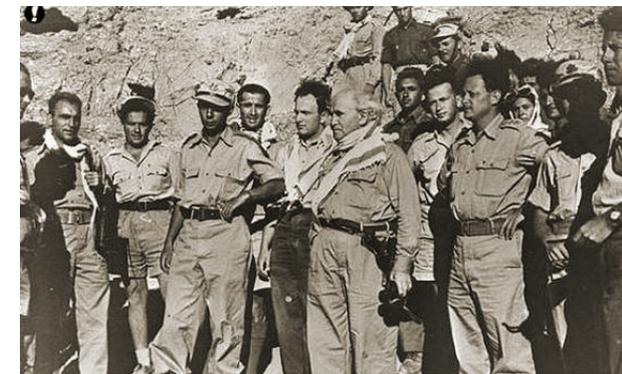
Even France, an advanced Western country, remained stuck at this stage for many years. It had powerful nuclear reactors, uranium enrichment, and plutonium separation technology—but its scientists couldn't agree on the calculations necessary to create a working prototype of a nuclear bomb. Despite its close alliance with the US and Great Britain, those nations refused to share the ultimate secret of building an atomic bomb with France.

In those years, nuclear proliferation (the spread of nuclear technology around the world) was a primary concern in the United States. The Americans didn't just want to stop anyone else from getting their hands on more advanced technologies, like plutonium extraction. They didn't even want other nations experimenting with the simplest types of nuclear reactors! In their view, any step a foreign country took toward advancing nuclear technology was one step too far.

In order to successfully develop nuclear weapons under the noses of the Americans, Israel would have to conduct every single stage of development with absolute secrecy. The smallest leak could alert the CIA to what was going on, and then they would be finished.



David Ben-Gurion with the Israel Air Force's "First Fighter Squadron" in 1948.



David Ben-Gurion with Yigal Allon and Yitzhak Rabin (behind, to right) in the Negev, during the 1948 war.

Not only that, but the entire infrastructure of nuclear technology would have to be built from scratch. This was a feat that most larger and wealthier countries had never even dreamed of.

In the early days of Israel's existence, the small nation was desperate for allies. Israel struggled under a Western-imposed arms embargo as it fought for survival and tried to validate its existence in the eyes of the wider world. Meanwhile, Russia was trying to get a foothold in the Middle East by providing support and arms to the Arab countries.

Israel's greatest hope was to gain the patronage of a world power like the United States. Israel needed help to buffer against the menace of its Russian-backed Arab neighbors. Its greatest folly would be to do something that would isolate it in the international arena. Something like pursuing nuclear weapons.

Almost no one would have believed that under such conditions, David Ben-Gurion