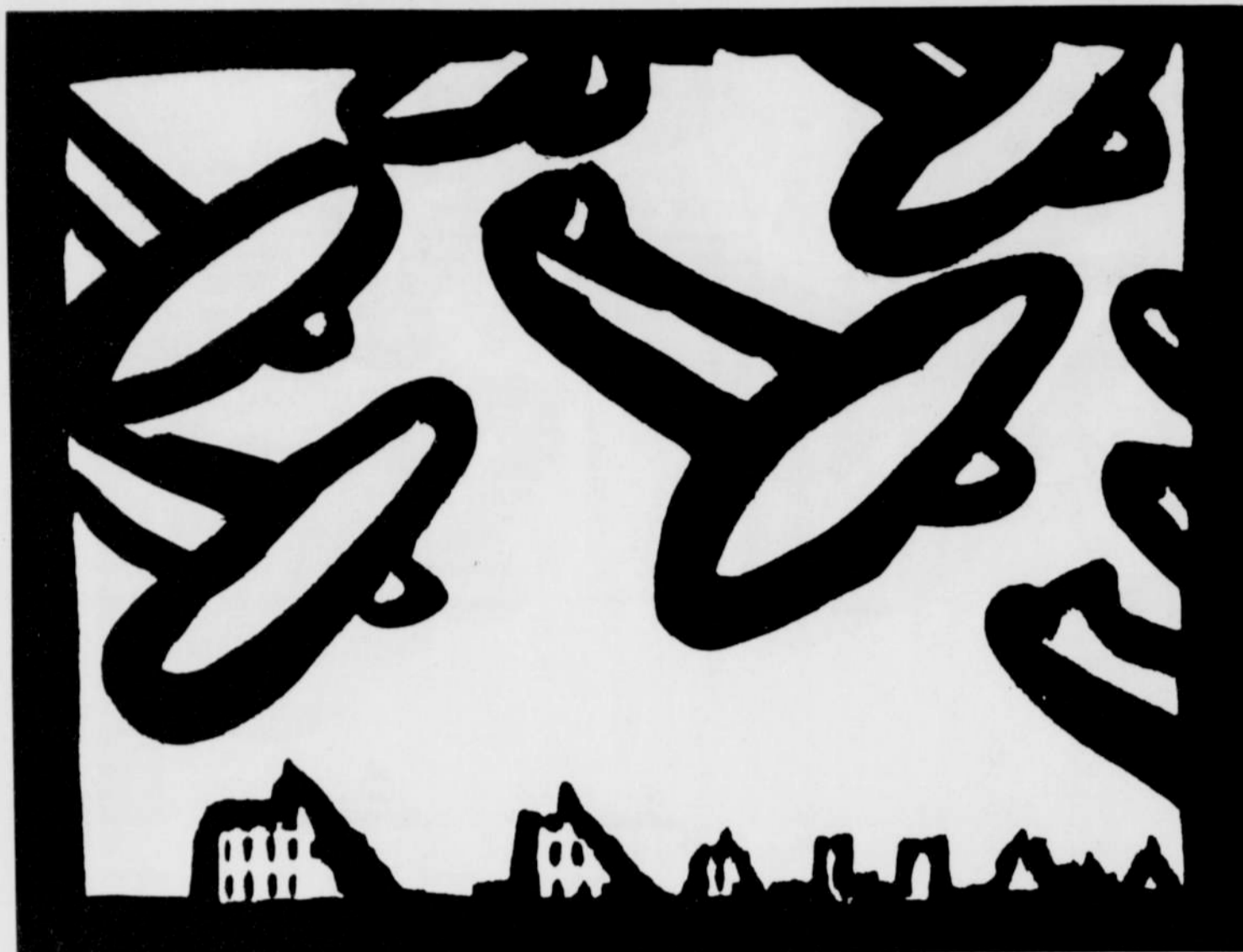


A HISTORY OF BOMBING



EDWARD HAGEDORN (1902-1982), FROM 'IMAGES OF WAR'

BY SVEN LINDQVIST

'We shan't have to leave our fortress, now, when we want to blow up civilization.'

—MARK TWAIN
(*A Connecticut Yankee in King Arthur's Court*)

In the beginning was the bomb. It consisted of a pipe, like a bamboo pipe of the type abundant in China, filled with an explosive, like gunpowder, which the Chinese had discovered as early as the 9th century. If one closed this pipe at both ends, it became a bomb. When the pipe was opened at one end, it was blown forward by the explosion. The bomb then became a rocket. It soon developed into a two-stage rocket — a large rocket that rose into the air and released a shower of small rockets over the enemy. The Chinese used rockets of this type in their defense of Kaifeng in 1232. The rocket weapon spread via the Arabs and Indians to Europe around 1250 — but it was forgotten until the English rediscovered it at the beginning of the 19th century.

If the rocket was opened at the other end, the bomb became a gun or a cannon. The explosion blew out whatever had been tamped into the pipe, like a bullet or another, smaller bomb, called a shell. Both the gun and the cannon had been fully developed in China by 1280, and they reached Europe thirty years later.

Bombs began to be used in warfare around the same time that the chemical equation for gunpowder was first published, in 1044. They were dropped from the tops of city walls or slung from catapults at the enemy.

The first technical description of a bomb, made in China during the 12th century, shows the bomb filled with thirty-odd thin slivers of porcelain, which were flung out in the explosion. Starting in 1412 there are descriptions of "fragmentation bombs" filled with iron shot or shards of porcelain inside a thin cast-iron shell, which blew to bits with the explosion. The jagged shards of metal were intended to "wound the skin and break the bones." Thus the first bombs were what today we call anti-personnel bombs, intended for battling so-called soft targets.

The first depiction of war to describe the use of bombs dates from 1207. It emphasizes what would later be called the "morale effect" or the "terror effect." When the bombs exploded, "the (enemy) wretches were terrified and quite lost their senses, men and horses running away as fast as they could."

For a long time the bomb was considered a primitive forerunner to the rocket or cannon. But the early theoreticians of flight realized that the bomb could be a terrible weapon if it could be thrown from the air.

In his *Prodromo overo Saggio* ("The Aerial Ship") of 1670, Francesco de Lana Terzi already warned of airships that from an appropriate height could drop "artificial fire, bullets, and bombs" at "houses, castles, or cities," without placing themselves in the least danger. Defying his own warning, he himself tried to construct such an airship, built on the vacuum principle.

In 1710, Gottfried Zeidler published *Der fleigende Wandersmann* ("The Flying Wanderer"). He dreamed of flight as a way to make travel easier and cheaper. Like storks and swallows, everyone would be able to take off for warmer lands when winter came. But he also realized the lack of security flight would create. "No country, no city would ever be safe from attacks from above."

A French printer, Restif de la Bretonne, traveled far into the future in *La découverte australe par un homme-volant* ("The Astral Discovery of a Flying Man"), 1781. There he foresaw interplanetary rocket trips and fleets of bombers leaving "in the immense space of future time a trail of infamy, fear and horror." The year after that, the Montgolfier brothers in Avignon began to experiment with hot-air balloons. Ascents were first attempted with unmanned balloons, since no one knew what would happen to a human being who left the earth and rose into the unknown. The balloon also was tested with a duck and a sheep as passengers before the Montgolfier brothers took off in an unanchored balloon on November 21, 1783, and flew for twenty-five miles.

Among the audience was a Prussian lieutenant engineer by the name of J.C.G. Heyne. He was impressed by the military possibilities of the balloon and a few months later had already published the first book about flight as a weapon. The balloon could, he wrote, "rain down fire and destruction on whole towns with catastrophic results for the inhabitants." But since this threat would hover all the countries at war they would, Heyne believed, soon agree on rules to prevent flying machines from being used for purposes of terror or mass destruction.

Balloons proved to be so vulnerable and difficult to steer that they lacked significant military value. A hundred years later, in 1899, at The Hague, the great powers could therefore agree to follow Heyne's recommendation and forbid bombardment from balloons.

On December 17, 1903, at 10:35 a.m., the first motor-driven airplane lifted off and flew. For only 12 seconds and for only forty yards — but an ancient dream was fulfilled in that moment. Finally humans could fly! That humans could now bomb as well was forgotten in the excitement. All of the dangers associated with the conquest of the sky were blown away like mist in the tailwind of the first airplane.

Dumbstruck crowds in New York and Paris saw an airplane for the first time in 1908. Every eye was fixed on the rubber wheels as if enchanted — would they really leave the ground? Yes, the miracle came to pass! "Never have I seen such a look of wonder in the faces of a multitude," wrote a

Chicago newspaper reporter. "Everyone seemed to feel that it was a new day in their lives."

Flight seemed to be a step into a new element, a new world. People spoke of the "aerial age" and felt that we had now left behind our earlier, earthbound existence and were launched into a new way of life. Flying would be as normal as riding a bicycle, as natural as walking.

All good things would come with flight: democracy, equality, freedom. The air was freedom's realm, where travel went on unimpeded by rails, roadblocks, or stationmasters. Female fliers saw a great future in the air, where old gender differences would no longer apply. When cars were replaced by planes, black chauffeurs would train to be pilots and soon be the leaders of the air, according to another hopeful train of thought.

Flight would lift humankind from the filth of the earth and create a new life-form, according to Alfred W. Lawson, an early adherent of the gospel of flight. He believed in a new kind of human being, the "alti-man," who would be born in the air and live his whole life up there. In this future, the "ground-men" who continue to walk on the bottom of the air-sea would be regarded in much the same way we regard oysters and crabs. Lawson's alti-man would conquer all the limitations of the earth and become an angel or a god.

Other new means of transport met impassioned resistance from people who feared their social consequence. Not so the airplane. No one maintained that flight disfigured the landscape, as the railroad did, or that it destroyed the morals of the youth, as did the bicycle and the automobile.

New weapons — machine guns, tanks, poisonous gas — were sincerely detested by the general public. But not the airplanes. The British sometimes feared that their hereditary foe, France, would invade England with troops sent in from the air. But their delight in airplanes conquered their fear. Even when airplanes were used to kill people on the ground, air war was generally considered "purer" and "nobler" than other forms of warfare. Pilots were seen as the duelists of the air, modern knights engaging in a heavenly tournament.

Airplanes were said to preserve the peace, mainly by democratizing the dangers of war. Up to this time, those who commanded others to do battle with one another could feel quite comfortable about their own safety. But in the age of flight they too would be exposed and therefore would be less inclined to begin a war. People also believed that flight would do away with the very cause of national conflicts by bringing people closer to one another. Those who had been divisive and hostile on the ground would live peacefully together in the boundless heavens during the age of flight.

The first bomb dropped from an airplane exploded in an oasis outside Tripoli on November 1, 1911. Since the beginning of the 16th century, North Africa enjoyed a relatively independent position in the Turkish empire. During the 19th century, the Turks lost possession after possession to the European powers, and by 1911, only a little strip of coastline remained to them, between British Egypt and French Tunisia. Now the Italians wanted to celebrate the fiftieth anniversary of a united Italy by conquering that last little piece of Turkish North Africa — the city of Tripoli, with its 30,000 inhabitants and a wide stretch of desert populated by about 600,000 Arab nomads.

The Tripoli war was a godsend for the Italian pilots. Just three years after the first exhibit of flight in Paris they would now have a chance to battle-test the new weapon. One of them mounted a camera in his airplane and took the first air photograph. Another made the first night raid, and a third dropped the first firebomb. A fourth was the first to be shot down.

A theory of precision bombing — with the pilot as policeman, the bomb as his baton — was developed by R. P. Hearne in *Airships in Peace & War* (1910). Punitive expeditions are costly and time-consuming. It can take months for them to reach their goal. But punishment from the air can be carried out immediately and at a much lower cost. "In savage lands the moral effect of such an instrument of war is impossible to conceive," writes Hearne. "The appearance of the airship would strike terror into the tribes." And in addition, one could avoid "the awful waste of life occasioned to white troops by expeditionary work." The air force could simply patrol the land as the navy patrolled the sea. When necessary, bombers could mete out a "sharp, severe, and terrible punishment," which would nevertheless be more humane than a traditional punitive expedition. For the bombs would affect only the lawbreakers and would leave the innocent unharmed.

This was, of course, pure fantasy. Hearne's idea demanded a precision that did not exist. When the French sent



COLUMBIA RIVER
MARITIME MUSEUM
1792 MARINE DR., ASTORIA, ORE.
(503) 325-2323

WHAT THE GENERAL SAID

Chess pieces are carved out of bone:
i will have them advance until the world is
mirrored in the brass buttons of my uniform.
i will have bridgeheads hammered
until the hungry mouths of graves go silent.
i will stroke the breasts of my women
like marble monuments to the fallen.
i will lower the temperature of my body
to store my heart inside like steak tartare and
later give it to my grandchildren to play with
when they tussle around me, my heart,
which will be young, untouched and raw.

—JAN WAGNER



Ship Inn
Fish & Chips
Imported Beer on Tap
#1 on 2nd Street
Astoria * 325-0033