

# P R E L U D E

That night, shortly before dawn rose in the Afghan mountains, they had noticed unusual behavior on the ground.

PILOT: Can you zoom in a little bit, man, let 'em take a look?

SENSOR OPERATOR: At least four in the back of the pickup.

PILOT: What about the guy under the north arrow? Does it look like he's holdin' something across his chest?

SENSOR OPERATOR: Yeah, it's kind of weird how they all have a cold spot on their chest.

PILOT: It's what they've been doing here lately, they wrap their [expletive] up in their man dresses so you can't PID [positively identify] it.

The pilot and the sensor operator scrutinize the scene on a monitor. They wear khaki uniforms with a shoulder badge—an owl with outstretched wings against a red background and flashes of lightning in the talons. Wearing earphones, they are sitting side by side on fake-leather seats. There are warning lights everywhere. But this place is unlike an ordinary cockpit.

They are shadowing something thousands of miles away. Images of vehicles, captured in Afghanistan, are relayed by satellite to Creech Air Force Base, not far from Indian

Springs, Nevada. In the 1950s, this was where the American nuclear tests were carried out. The atomic mushroom cloud rising in the distance could be seen from Las Vegas. Today, drivers on Highway 95 regularly catch sight of other shapes above their heads: oblongs with rounded heads, like fat, white blind larvae.

Creech AFB is the cradle of the U.S. Air Force fleet of drones. The soldiers call it “the home of the hunters.” But the antiwar organization CODEPINK calls it “a place of disbelief, confusion and sadness.”<sup>1</sup>

The work here is extremely boring. Men pass whole nights watching a screen on which, for the most part, appear unchanging images of another desert on the other side of the planet. Eating Doritos and M&Ms, they wait for something to happen: “months of monotony and milliseconds of mayhem.”<sup>2</sup>

In the morning another team will come to take over the controls of the apparatus. The pilot and sensor operator will return to the steering wheels of their SUVs, which will take them back to their wives and children in a peaceful residential suburb of Las Vegas, forty-five minutes away.

The passengers traveling in three vehicles that, a few hours ago, left their little village in the province of Daikundi have no idea that for quite some time now, dozens of eyes have been watching them. Among those invisible spectators are not only the pilot and sensor operator but also a mission intelligence coordinator, a safety observer, a team of video analysts, and a ground force commander, the last of whom will eventually give the go-ahead for an aerial strike. This network of eyes remains in constant communication with one another. And on this night of February 20, 2010, their conversation is, as usual, recorded:

00:45 GMT (05:15 in Afghanistan)

PILOT: Is that a [expletive] rifle?

SENSOR OPERATOR: Maybe just a warm spot from where he was sitting. Can't really tell right now, but it does look like an object.

PILOT: I was hoping we could make a rifle out, never mind.

...

01:05

SENSOR OPERATOR: That truck would make a beautiful target. OK, that's a Chevy Suburban.

PILOT: Yeah.

SENSOR OPERATOR: Yeah.

...

01:07

MISSION INTELLIGENCE COORDINATOR: Screener said at least one child near SUV.

SENSOR OPERATOR: Bull [expletive] . . . where?

SENSOR OPERATOR: Send me a [expletive] still, I don't think they have kids out at this hour, I know they're shady but come on.

...

SENSOR OPERATOR: Well, maybe a teenager but I haven't seen anything that looked that short, granted they're all grouped up here, but . . .

MISSION INTELLIGENCE COORDINATOR: They're reviewing . . .

PILOT: Yeah, review that [expletive] . . . why didn't he say possible child, why are they so quick to call [expletive] kids but not to call a [expletive] rifle?

MISSION INTELLIGENCE COORDINATOR: Two children were at the rear of the SUV.

...

01:47

MISSION INTELLIGENCE COORDINATOR: Looks kinda like blankets, they were praying, they had like . . .

PILOT: JAG25 KIRK97 We get a good count, not yet?

SENSOR OPERATOR: They're praying, they're praying. . . .

This is definitely it, this is their force. Praying? I mean seriously, that's what they do.

MISSION INTELLIGENCE COORDINATOR: They're gonna do something nefarious.

. . .

01:50

MISSION INTELLIGENCE COORDINATOR: Adolescent near the rear of the SUV.

SENSOR OPERATOR: Well, teenagers can fight.

MISSION INTELLIGENCE COORDINATOR: Pick up a weapon and you're a combatant, it's how that works.

. . .

01:52

SENSOR OPERATOR: One guy still praying at the front of the truck.

PILOT: JAG25 KIRK97 be advised, all pax [passengers] are finishing up praying and rallying up near all three vehicles at this time.

SENSOR OPERATOR: Oh, sweet target. I'd try to go through the bed, put it right dead center of the bed.

MISSION INTELLIGENCE COORDINATOR: Oh, that'd be perfect.

. . .

02:41

SENSOR OPERATOR: Well, sir, would you mind if I took a bathroom break real quick?

PILOT: No, not at all, dude.

. . .

03:17

UNKNOWN: What's the master plan, fellas?

PILOT: I don't know, hope we get to shoot the truck with all the dudes in it.

SENSOR OPERATOR: Yeah.

[The Predator drone has only one missile on board—not enough to target three vehicles—so two Kiowa helicopters, known as “Bam Bam 41,” are ordered to take up an attacking position. A plan is agreed: the helicopters will fire first, then the drone will finish the job by firing its Hellfire missile at the survivors.]

...

03:48

MISSION INTELLIGENCE COORDINATOR [speaking to the drone pilot about the helicopters]: . . . at ground force commander’s orders we may have them come up, action those targets, and let you use your Hellfire for cleanup shot.

PILOT: Kirk97, good copy on that, sounds good.

...

04:01

SENSOR OPERATOR: Sensor is in, let the party begin . . . Tell you what, they could have had a whole fleet of Preds up here.

PILOT: Oh, dude.

...

04:06

PILOT: As far as a weapons attack brief goes, man, we’re probably going to be chasing dudes scrambling in the open, uh, when it goes down, don’t worry about any guidance from me or from JAGUAR, just follow what makes the most sense to you. Stay with whoever you think gives us the best chance to shoot, um, at them. And I’m with you on that. So I’ll brief you up on the launch profile, we’ll hit a weapons attack brief when we know what we’re going to shoot.

...

04:11

HELICOPTERS: Kirk97, Bam Bam four-one has you loud and clear.

PILOT: OK, Bam Bam 41, Kirk97 have you loud and clear as well. Understand you are tracking our three vehicles, do you need a talk on or do you have them?

HELICOPTERS: 41 has them just south side of the pass of the reported grid, white Highland[er] followed by two SUVs.

PILOT: Kirk97, that's a good copy. Those are your three vehicles. Be advised we have about twenty-one MAMs, about three rifles so far PIDEd in the group and, ah, these are your three.

...

04:13

PILOT: It's a cool-looking shot.

SENSOR OPERATOR: Oh, awesome!

...

HELICOPTERS: [unintelligible] weapons and ICOM chatter with tactical maneuver. Break. Um, understand we are clear to engage.

PILOT: Okay, he's clear to engage so he has Type Three. I'm going to spin our missiles up as well.

...

04:16

SENSOR OPERATOR: Roger. And, oh, . . . and there it goes! [The helicopters fire at the convoy] . . . Have another guy . . . did they get him too? Yep.

PILOT: They took the first and, uh, the last out. They're going to come back around.

...

04:17

MISSION INTELLIGENCE COORDINATOR: Do we want to switch back to the other frequency?

PILOT: I tried, nobody was talking to me over there.

SENSOR OPERATOR: Looks like they're surrendering.

They're not running.

...

04:18

SENSOR OPERATOR: That guy's laid down? They're not running.

SAFETY OBSERVER: Dude, this is weird.

SENSOR OPERATOR: They're just walking away.

...

SAFETY OBSERVER: You want to see if there's anybody at the back?

UNKNOWN: Yeah [unintelligible] outline.

SAFETY OBSERVER: By that third wreck.

SENSOR OPERATOR: A couple—two or three. Yeah, they're just chilling.

PILOT: Zoom in on that for a second for me. The third one.

SENSOR OPERATOR: The third one?

PILOT: Yeah. Did they blow that up? They did, right?

SAFETY OBSERVER: They did, yeah.

SENSOR OPERATOR: No, they didn't.

PILOT: They didn't.

SENSOR OPERATOR: They didn't. No, they're just out there.

PILOT: Yeah, that thing looks destroyed, though, doesn't it?

SAFETY OBSERVER: Yeah, they hit it. There's some smoke.

SENSOR OPERATOR: They hit it. You [unintelligible] . . .

These guys are just . . . [rocket attack on middle vehicle]

UNKNOWN: Oh!

PILOT: Holy [expletive]!

...

04:22

SENSOR OPERATOR: PID weapons, I don't see any . . .

SAFETY OBSERVER: Got something shiny on the one at the right . . .

SENSOR OPERATOR: Right. . . . That's weird. . . .

PILOT: Can't tell what the [expletive] they're doing.

SENSOR OPERATOR: Probably wondering what happened.

SAFETY OBSERVER: There's one more to the left of the screen.

SENSOR OPERATOR: Yeah, I see them.

SAFETY OBSERVER: Are they wearing burqas?

SENSOR OPERATOR: That's what it looks like.

PILOT: They were all PIded as males, though. No females in the group.

SENSOR OPERATOR: That guy looks like he's wearing jewelry and stuff like a girl, but he ain't . . . if he's a girl, he's a big one.

. . .

04:32

SAFETY OBSERVER: One of those guys up at the top left's moving.

SENSOR OPERATOR: Yeah, I see him. I thought I saw him moving earlier, but I don't know if he's . . . is he moving or is he twitching?

SAFETY OBSERVER: Eh, I think he moved. Not very much, but . . .

SENSOR OPERATOR: Can't, can't follow them both.

MISSION INTELLIGENCE COORDINATOR: There's one guy sitting down.

SENSOR OPERATOR [talking to individual on the ground]: What you playing with?

MISSION COORDINATOR: His bone.

. . .

04:33

SAFETY OBSERVER: Oh, shit. Yeah, you can see some blood right there, next to the . . .

MISSION INTELLIGENCE COORDINATOR: Yeah, I seen that earlier.



...

04:36

MISSION INTELLIGENCE COORDINATOR: Is that two? One guy's tending the other guy?

SAFETY OBSERVER: Looks like it.

SENSOR OPERATOR: Looks like it, yeah.

MISSION INTELLIGENCE COORDINATOR: Self-aid buddy care to the rescue.

SAFETY OBSERVER: I forget, how do you treat a sucking gut wound?

SENSOR OPERATOR: Don't push it back in. Wrap it in a towel. That'll work.

...

04:38

PILOT: They're trying to [expletive] surrender, right? I think.

SENSOR OPERATOR: That's what it looks like to me.

MISSION INTELLIGENCE COORDINATOR: Yeah, I think that's what they're doing.

...

04:40

SENSOR OPERATOR: What are those? They were in the middle vehicle.

MISSION INTELLIGENCE COORDINATOR: Women and children.

SENSOR OPERATOR: Looks like a kid.

SAFETY OBSERVER: Yeah. The one waving the flag.

...

04:42

SAFETY OBSERVER: I'd tell him they're waving their...

SENSOR OPERATOR: Yeah, at this point I wouldn't... I personally wouldn't be comfortable shooting at these people.

MISSION INTELLIGENCE COORDINATOR: No.<sup>3</sup>



# INTRODUCTION

In the official vocabulary of the U.S. Army, a drone is defined as “a land, sea, or air vehicle that is remotely or automatically controlled.”<sup>1</sup> The drone family is not composed solely of flying objects. There may be as many different kinds as there are families of weapons: terrestrial drones, marine drones, submarine drones, even subterranean drones imagined in the form of fat mechanical moles. Provided there is no longer any human crew aboard, any kind of vehicle or piloted engine can be “dronized.”

A drone can be controlled either from a distance by human operators (remote control)<sup>2</sup> or autonomously by robotic means (automatic piloting). In practice, present-day drones combine those two modes of control. Armies do not yet have at their disposal operational autonomous lethal robots, although as we shall see, there are already advanced plans for those.

The term “drone” is mainly used in common parlance. Military jargon refers to “unmanned aerial vehicles” (UAVs) or to “unmanned combat air vehicles” (UCAVs), depending on whether the contraption carries weapons.

This work will focus on the case of armed flying drones, the ones that are known as “hunter-killers” and used in the attacks regularly reported by the press. Their history is that of an eye turned into a weapon. “We’ve moved from

using UAVs primarily in intelligence, surveillance, and reconnaissance roles before Operation Iraqi Freedom,” said a U.S. Air Force general, “to a true hunter-killer role with the Reaper”—a name that “captures the lethal nature of this new weapon system.”<sup>5</sup> The best definition of drones is probably the following: “flying, high-resolution video cameras armed with missiles.”<sup>4</sup>

David Deptula, an Air Force officer, identified their basic strategy: “The real advantage of unmanned aerial systems is that they allow you to project power without projecting vulnerability.”<sup>5</sup> “Projecting power” should here be understood in the sense of deploying military force regardless of frontiers: a matter of making military interventions abroad, the problem of extending imperial power from the center over the world that constitutes its periphery. In the history of military empires, for many years “projecting power” meant “sending in troops.” But it is precisely that equation that now has to be dismantled.

Self-preservation by means of drones involves putting vulnerable bodies out of reach. This could be seen as the fulfillment of the ancient desire that inspires the whole history of ballistic weapons: to increase one’s reach so as to hit the enemy from a distance before the opponent can launch its own attack.<sup>6</sup> But with drones, the weapon’s range (the distance between the weapon and its target) has been increased by the range of the remote control (the distance separating the operator from the weapon). Thousands of miles can now be interposed between the trigger on which one’s finger rests and the cannon from which the cannonball will fly.

However, “projection of power” is also a euphemism that obscures the facts of wounding, killing, destroying. And to do this “without projecting vulnerability” implies that the only vulnerability will be that of the enemy, reduced to the status of a mere target. Underlying the palliative military

rhetoric, as Elaine Scarry detects, the real claim is that the “successful strategy is one in which the injuring occurs only in one direction. . . . Thus, the original definition, which seems to posit noninjuring against injuring, instead posits one-directional injuring against two-directional injuring.”<sup>7</sup> By prolonging and radicalizing preexisting tendencies, the armed drone goes to the very limit: for whoever uses such a weapon, it becomes a priori impossible to die as one kills. Warfare, from being possibly asymmetrical, becomes absolutely unilateral. What could still claim to be combat is converted into a campaign of what is, quite simply, slaughter.

The use of this new weapon is most marked by the United States. That is why I have borrowed from that country most of the facts and examples upon which my thesis is based. At the time of writing, the American armed forces had at their disposal more than six thousand drones of various kinds; more than 160 of these were Predator drones in the hands of the U.S. Air Force.<sup>8</sup> For both the military and the Central Intelligence Agency (CIA), the use of hunter-killer drones has become commonplace, to the point of being routine. These machines are deployed not only in zones of armed conflict, such as Afghanistan, but also in countries officially at peace, such as Somalia, Yemen, and above all Pakistan, where CIA drones carry out on average one strike every four days.<sup>9</sup> Exact figures are very hard to establish, but in Pakistan alone estimates of the number of deaths between 2004 and 2012 vary from 2,640 to 3,474.<sup>10</sup>

The use of this weapon has grown exponentially: the number of patrols by American armed drones increased by 1,200 percent between 2004 and 2012.<sup>11</sup> In the United States today, more drone operators are trained than all the pilots of fighter planes and bombers put together.<sup>12</sup> Whereas the defense budget decreased in 2013, with cuts in numerous sectors, the resources allocated to unmanned weapon systems

rose by 30 percent.<sup>13</sup> That rapid increase reflects a strategic plan: the gradual dronization of an increasing portion of the American armed forces.<sup>14</sup>

The drone has become one of the emblems of Barack Obama's presidency, the instrument of his official antiterrorist doctrine, "kill rather than capture"<sup>15</sup>: replace torture and Guantanamo with targeted assassination and the Predator drone.

In the American press, this weapon and this policy are the subject of daily debate. Militant anti-drone movements have sprung up.<sup>16</sup> The United Nations has set up an inquiry into the use of armed drones.<sup>17</sup> In other words, this has become a burning political issue.

The intention of this book is to subject the drone to a philosophical investigation. In this matter, I follow the precept expressed by Canguilhem: "Philosophy is a reflection for which all foreign material is good and, we would gladly say, in which all good material must be foreign."<sup>18</sup>

If the drone lends itself in particular to this kind of approach, it is because it is an "unidentified violent object": as soon as one tries to think about it in terms of established categories, intense confusion arises around notions as elementary as zones or places (geographical and ontological categories), virtue or bravery (ethical categories), warfare or conflict (categories at once strategic and legal-political). I should first like to explain these crises of intelligibility by bringing to light the contradictions they express. At the root of them all lies the elimination, already rampant but here absolutely radicalized, of any immediate relation of reciprocity.

That, in itself, might constitute an initial analytical dimension to this "drone theory." But over and above that formula, what might the theorization of a weapon signify? What might such an attempt involve?

A guiding thread is a thought expressed by the philosopher

Simone Weil in the 1930s: “the most defective method possible,” she warned, would be to approach warfare and the phenomena of armed violence “in terms of the ends pursued and not by the nature of the means employed.”<sup>19</sup> On the other hand, “the very essence of the materialist method is that, in its examination of any human event whatever, it attaches much less importance to the ends pursued than to the consequences necessarily implied by the working out of the means employed.”<sup>20</sup> Rather than hastening to seek possible justifications—in other words, rather than moralizing—she advised doing something quite different: Begin by taking apart the mechanism of violence. Go and look at the weapons, study their specific characteristics. Become a technician, in a way. But only in a way, for the aim here is an understanding that is not so much technical as political. What is important is not so much to grasp how the actual device works but rather to discover the implications of how it works for the action that it implements. The point is that the means adopted are binding, and a combination of specific constraints is associated with each type of means adopted. Those means not only make it possible to take action but also determine the form of that action, and one must find out how they do so. Rather than wonder whether the ends justify the means, one must ask what the choice of those means, in itself, tends to impose. Rather than seek moral justifications for armed violence, one should favor a technical and political analysis of the weapons themselves.

Analyzing a weapon might involve revealing what possession of it implies and seeking to know what effects it might produce on its users, on the enemy that is its target, and on the very form of their relations. But the central question would be this: How do drones affect the war situation? To what do they lead, not only in terms of their relation to the enemy but also in terms of the state’s relation to its own subjects?

The implications are tendentious, often intertwined, taking the form of dynamic sketches rather than unequivocal deductions. “Taking apart the mechanism of the military struggle” means making a strategic analysis of the “social relations it implies.”<sup>21</sup> Such would be the program for a critical analysis of weaponry.

But studying a determinative relationship does not mean ruling out an analysis of intentionality—that is, attempting to identify the strategic projects that govern the technical choices while at the same time being determined by those choices. Contrary to what simplistic dualisms postulate, technical determinism (means) and strategic intentionality (ends), although conceptually opposed, are not in practice incompatible. On the contrary, it is possible for the two to interact harmoniously. The surest way to ensure the permanence of a strategic choice is to opt for means that implement it to the point of turning it into the sole practicable option.

Another important point is that amid the general uncertainty fueled by a created crisis, lurking within the fog of war, large-scale intellectual maneuvers are in the offing and semantic coups are being plotted. In fact, a whole collection of theoretical offensives are being launched with the aim of appropriating, twisting, and redefining concepts that, by naming and theorizing violence, allow it to be legitimately exercised. More than ever, philosophy is a battlefield. It is time to enter the fray. What I have to say is openly polemical, for, over and above the possible analytical contributions this book may make, its objective is to provide discursive weapons for the use of those men and women who wish to oppose the policy served by drones.

Let me start with the following questions: Where did the drone come from? What is its technical and tactical genealogy? And what are its consequent fundamental characteristics?

This weapon extends and radicalizes the existing processes



of remote warfare and ends up by doing away with combat. But in so doing, it is the very notion of “war” that enters into crisis. A central problem arises: if the “war of drones” is no longer quite warfare, what kind of “state of violence” does it amount to?<sup>22</sup>

The attempt to eradicate all direct reciprocity in any exposure to hostile violence transforms not only the material conduct of armed violence technically, tactically, and psychically, but also the traditional principles of a military ethos officially based on bravery and a sense of sacrifice. Judged by the yardstick of such classical categories, a drone *looks like* the weapon of cowards.

That does not prevent its supporters from declaring it to be the most ethical weapon ever known to humankind. Bringing about this moral conversion and transmutation of values is the task to which philosophers working within the confined field of military ethics today devote themselves.

They declare the drone to be the humanitarian weapon par excellence. Their discursive efforts are essential for ensuring the social and political acceptability of this weapon. In this discourse of legitimation, the elements of language provided by arms dealers and spokespeople for the armed forces are recycled, through the crude processes of discursive alchemy, into the guiding principles of an ethical philosophy of a new kind: a “necro-ethics” that calls urgently for critical assessment.

But the offensive is also and perhaps above all pushing into the field of legal theory. “Warfare without risk,” in which the drone is probably the most effective instrument, critically undermines the meta-legal principles that underpin the right to kill in war. Against a background of fundamental destabilization such as this, formulas for redefining a sovereign power over life and death are being introduced. The aim is to accommodate the right to “targeted assassination” even if,

in the process, the rights typically associated with being in armed conflict go up in smoke.

But that is not all. By inventing the armed drone one has also, almost inadvertently, discovered something else: a solution to the central contradiction that for several centuries has affected the modern theory of political sovereignty in matters of warfare. The generalization of such a weapon implies a change in the conditions that apply in the exercise of the power of war, this time in the context of the relations between the state and its own subjects. It would be mistaken to limit the question of weaponry solely to the sphere of external violence. What would the consequences of becoming the subjects of a drone-state be for that state's own population?

# I

## Techniques and Tactics



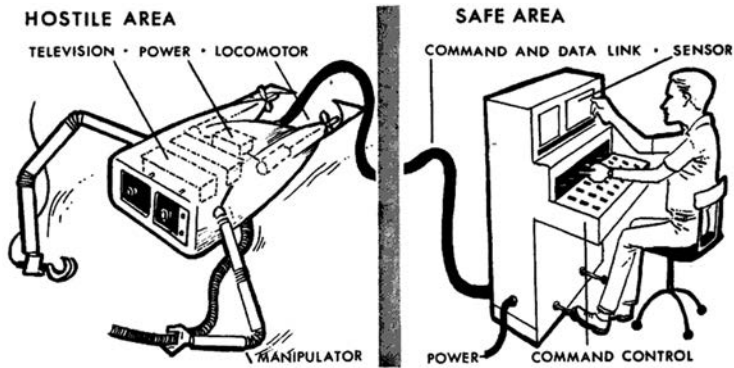
## Methodologies for a Hostile Environment

Better medicine is not the only way to achieve zero-loss warfare.

—Robert L. Forward, *Martian Rainbow*

How could one intervene without danger in places as inhospitable as irradiated zones, in the depths of the sea, or on distant planets? In 1964, the engineer John W. Clark produced a study of “remote control in hostile environments”: “When plans are being made for operations in these environments, it is usual to consider only two possibilities: either placing a machine in the environment or placing a protected man there. A third possibility, however, would in many cases give more satisfactory results than either of the others. This possibility employs a vehicle operating in the hostile environment under remote control by a man in a safe environment.”<sup>1</sup> Rather than deep-sea divers or autonomous machines, one could use remotely controlled machines or what Clark, forging an awkward neologism based on ancient Greek roots, called “telechiric machines,” or “technology of manipulation at a distance.”<sup>2</sup>

He wrote: “In the telechiric system, the machine may be thought of as an alter ego for the man who operates it. In effect, his consciousness is transferred to an invulnerable mechanical body with which he is able to manipulate tools or



The topography of the telechiric machine: the example of a bathyscape. From J.W. Clark, "Remote Control in Hostile Environments," *New Scientist* 22, no. 389 (April 1964).

equipment almost as though he were holding them in his own hands."<sup>5</sup> The only thing lacking in this second body is the living flesh of the first body. But therein lies the great advantage: the body that is vulnerable is removed from the hostile environment.

This device implies a specific topography, a particular way of thinking and of organizing space. And Clark, following the example provided by the bathyscape, produced the basic schema for it.

Space is divided into two: a hostile area and a safe one. The picture shows a sheltered power in a safe place operating in a dangerous place outside. This power, sometimes called "telearchic," implies a frontier.<sup>4</sup> But that border is asymmetrical: it must not only block intrusions from outside but also be able to open slightly in order to admit the mechanical pseudopods designed to intervene in the hostile environment.<sup>5</sup>

The hostile zone, for its part, remains a space that is left derelict but which, as a potentially threatening area, definitely needs to be kept under surveillance. It may even be

exploited for its resources, but it is not, strictly speaking, to be occupied. One intervenes there and patrols it, but there is no suggestion of going to live there—except to carve out new secured zones, bases, or platforms in accordance with a general topographical schema and for reasons of security.

To the apostles of remote control, such an invention appeared to be a way to avoid the ordeals of working in extreme conditions. Even if one foresaw that in the age of atomic power and the conquest of space there would be “an increasing need for the performance of tasks in environments hostile to human beings,” it was possible to announce joyfully: “With technology as advanced as it is today, it is unnecessary to require a man to expose himself to physical danger in order to earn a living. . . . There is no hazardous task performed by men today that cannot, in principle, be performed by remotely controlled machines.”<sup>6</sup>

Remote control was thus a philanthropic device that would be able to relieve humankind of all perilous occupations. Miners, firefighters, and those working on the atom, in space, or in the oceans could all be converted into remote-control operators. The sacrifice of vile bodies was no longer necessary. Once living bodies and operative ones were dissociated, only the latter, entirely mechanized and dispensable, would now come into contact with danger: “There are no people to be hurt. A collapse or explosion would elicit no more response than, ‘Well, it is very sad. We’ve lost six robots.’”<sup>7</sup>

In his enthusiastic list of the possible applications of telechiric machines, Clark had overlooked one obvious one, which a reader hastened to point out:

The minds of telechirists are grappling with the problems of employing remotely-controlled machines to do the peaceful work of man amid the hazards of heat, radiation,

space and the ocean floor. Have they got their priorities right? Should not their first efforts towards human safety be aimed at mankind's most hazardous employment—the industry of war? . . . Why should twentieth-century men continue to be stormed at by shot and shell when a telechiric Tommy Atkins could take his place? All conventional wars might eventually be conducted telechirically, armies of military robots battling it out by remote control, victory being calculated and apportioned by neutral computers, while humans sit safely at home watching on TV the lubricating oil staining the sand in sensible simile of their own blood.<sup>8</sup>

It would be a utopia, with warfare converted into a tournament of machines—battles without soldiers, conflicts with no victims. However, the reader, who was no fool, concluded with a quite different scenario, one that, sad to say, was far more realistic: “Far-flung imperial conquests which were ours because we had the Maxim gun and they had the knob-kerry will be recalled by new bloodless triumphs coming our way because we have telechiric yeomanry and they, poor fuzzy-wuzzies, have only napalm and nerve-gas.”<sup>9</sup>

Once the remotely controlled machine becomes a weapon of war, it is the enemy who is treated as a dangerous material. He can be eliminated from afar as one watches on a screen, softly enclosed within a climatized “safe zone.” Asymmetrical warfare becomes radicalized, unilateral. Of course people would still die, but only on one side.





A Radioplane factory worker, 1944. Photograph by David Conover for the U.S. Army.

## The Genealogy of the Predator

Humanity needed it and it made its appearance forthwith.

—Hegel<sup>1</sup>

The girl who posed there, holding a drone propeller, was still called Norma Jeane Dougherty. She was immortalized by a photographer who had come to report on the Radioplane Company, founded in Los Angeles by Reginald Denny, a movie actor who had turned to aeromodelism. That was how the girl who was then still an ordinary worker but was to become Marilyn Monroe was discovered. The drone was born partly in Hollywood and thus, necessarily, under the sign of pretense.

Initially, the English word “drone” meant both an insect and a sound. It was not until the outbreak of World War II that it began to take on another meaning. At that time, American artillery apprentices used the expression “target drones” to designate the small remotely controlled planes at which they aimed in training. The metaphor did not refer solely to the size of those machines or the *brm-brm* of their motors. Drones are male bees, without stingers, and eventually the other bees kill them. Classical tradition regarded them as emblems of all that is nongenuine and dispensable.<sup>2</sup> That was precisely what a target drone was: just a dummy, made to be shot down.

However, it was a long time before drones were to be seen

cruising above battlefields. To be sure, the idea dates back quite a while: there were the Curtiss-Sperry aerial torpedo and the Kettering Bug at the end of World War I, and then the Nazi V-1s and V-2s unleashed on London in 1944. But those old flying torpedoes may be considered more as the ancestors of cruise missiles than as those of present-day drones. The essential difference lies in the fact that while the former can be used only once, the latter are reusable.<sup>5</sup> The drone is not a projectile, but a projectile-carrying machine.

It was during the Vietnam War that the U.S. Air Force, to counteract the Soviet surface-to-air missiles that had inflicted heavy casualties on it, invested in reconnaissance drones nicknamed “Lightning Bugs,” produced by Ryan Aeronautical.<sup>4</sup> An American official explained that “these RPVs [remotely piloted vehicles] could help prevent aircrews from becoming casualties or prisoners. . . . With RPVs, survival is not the driving factor.”<sup>5</sup>

Once the war was over, those machines were scrapped.<sup>6</sup> By the late 1970s, the development of military drones had been practically abandoned in the United States. However, it continued elsewhere. Israel, which had inherited a few of these machines, recognized their potential tactical advantages.

In 1973, the Israel Defense Forces (IDF), facing off against Egypt, ran up against the tactical problem of surface-to-air missiles. After losing around thirty planes in the first hours of the Yom Kippur War, Israeli aviation changed its tactics. They decided to send out a wave of drones in order to mislead enemy defenses: “After the Egyptians fired their initial salvo at the drones, the manned strikes were able to attack while the Egyptians were reloading.”<sup>7</sup> This ruse enabled Israel to assume mastery of the skies. In 1982, similar tactics were employed against the Syrians in the Bekaa Valley. Having first deployed their fleet of Mastiff and Scout drones, the Israelis then sent out decoy planes that were picked up by enemy

radar. The Syrians activated their surface-to-air missiles, to no effect whatsoever. The drones, which had been observing the scene from the sky, easily detected the positions of the anti-aircraft batteries and relayed them to the Israeli fighter planes, which then proceeded to annihilate them.

The drones were used for other purposes as well:

Two days after a terrorist bomb destroyed the [U.S.] Marine Barracks in Beirut in October 1983, Marine Commandant Gen. P.X. Kelley secretly flew to the scene. No word of his arrival was leaked. Yet, across the border, Israeli intelligence officers watched live television images of Kelley arriving and inspecting the barracks. They even zoomed the picture in tight, placing cross hairs directly on his head. Hours later, in Tel Aviv, the Israelis played back the tape for the shocked Marine general. The scene, they explained, was transmitted by a Mastiff RPV circling out of sight above the barracks.<sup>8</sup>

This was just one of a series of minor events that combined to encourage the relaunch of American drone production in the 1980s. “All I did,” confessed Al Ellis, the father of the Israeli drones, “was take a model airplane, put a camera in it, and take the pictures. . . . But that started an industry.”<sup>9</sup>

At this point, however, the drones were simply machines for intelligence, surveillance, and reconnaissance. They were just eyes, not weapons. The metamorphosis came about almost by chance, between Kosovo and Afghanistan, as the new millennium began. As early as 1995, General Atomics had invented a new remote-controlled spy plane prototype, the Predator. Despite its disquieting name, the beast was not yet equipped with claws or teeth. In Kosovo, where it was deployed in 1999, the drone limited itself to filming targets

and illuminating them by means of lasers, allowing the F-16 planes to strike.

But it would take a “‘different kind of war’ to make the Predator into a *predator*.”<sup>10</sup> No more than a few months before September 11, 2001, officers who had seen the Predator at work in Kosovo had the idea of experimentally equipping it with an antitank missile. Writes Bill Yenne in his history of the drone, “On February 16, 2001, during tests at Nellis Air Force Base, a Predator successfully fired a Hellfire AGM-114C into a target. The notion of turning the Predator into a predator had been realized. No one could imagine that, before the year was out, the Predator would be preying upon live targets in Afghanistan.”<sup>11</sup>

Barely two months after the outbreak of hostilities in Afghanistan, George Bush was in a position to declare: “The conflict in Afghanistan has taught us more about the future of our military than a decade of blue ribbon panels and think-tank symposiums. The Predator is a good example. . . . Now it is clear the military does not have enough unmanned vehicles.”<sup>12</sup>

## The Theoretical Principles of Manhunting

Individual will research and incorporate current manhunting experiences and procedures in order to provide an educational forum for manhunting issues. . . . Must possess a SECRET level clearance and be able to obtain a TOP SECRET/SCI security clearance.

—Job description for a special operations manhunting program analyst in an advertisement published by the military contractor SAI in 2006

In 2004, John Lockwood set up an Internet site called Live-Shot.com. The idea was at once simple and innovative. By subscribing online for a few dollars, the Internet surfer could become a “virtual hunter.” Thanks to a camera fixed to a mobile forearm, itself connected to a remote control device, one could, without stirring from home, shoot live animals let loose for the occasion on a ranch in Texas.

When it made the news, there was a rush to condemn it. The editor-in-chief of the magazine *Outdoor Life*, acknowledging the profound “ethical problems” that such a venture presented, set out a fine definition of what hunting meant for him: “To me, hunting isn’t just about pulling the trigger on an animal. It’s about the total experience. . . . Hunting is about being out there, not about pulling the trigger with the click of a mouse.”<sup>1</sup> A Wisconsin lawmaker took up the

theme, giving the definition a strangely environmentalist twist: "To me, hunting is being out in nature and becoming one with nature."<sup>2</sup> Even the extremely conservative National Rifle Association expressed its opposition, joining with the American Society for the Prevention of Cruelty to Animals in an unusual alliance: "We believe that hunting should be outdoors and that sitting in front of a computer three states away doesn't qualify as 'hunting.'"<sup>3</sup> A Houston police officer was even more adamant, saying, "It's not hunting. It's killing. . . . Someone gets a computer and pushes a button and something dies for no reason."<sup>4</sup>

Lockwood protested, claiming that his foremost purpose had been to allow handicapped people who were passionate about hunting to indulge in their favorite pastime and mentioning an American soldier in Iraq who had thanked him for offering such a fine opportunity, saying that he had no idea when he might be able to go hunting again. But it was all in vain. Hunting online was forbidden. Lockwood, disappointed, tried to salvage his scheme by suggesting that his clients should fire at cardboard targets representing Osama bin Laden. However, his intended Internet audience shifted to other, no doubt more exciting, online pleasures, and the little venture that had seemed so promising collapsed.

The triggers of moral indignation are quite mysterious sometimes. While the virtual hunting of animals was almost universally condemned as scandalous, the remote-controlled hunting of human beings was at the same moment taking off without any of those same people making any objections.

In the immediate aftermath of September 11, George W. Bush had predicted that the United States would embark upon a new kind of warfare, "a war that requires us to be on an international manhunt."<sup>5</sup> Something that initially sounded like nothing more than a catchy Texas cowboy slogan has since been converted into state doctrine, complete

with experts, plans, and weapons. A single decade has seen the establishment of an unconventional form of state violence that combines the disparate characteristics of warfare and policing without really corresponding to either, finding conceptual and practical unity in the notion of a militarized manhunt.

In 2001, U.S. secretary of defense Donald Rumsfeld had become convinced that “the techniques used by the Israelis against the Palestinians could quite simply be deployed on a larger scale.”<sup>6</sup> What he had in mind was Israel’s programs of “targeted assassinations,” the existence of which had recently been recognized by the Israeli leadership. As Eyal Weizman explains, the occupied territories had become “the world’s largest laboratory for airborne thanatotactics,” so it was not surprising that they would eventually be exported.<sup>7</sup>

But one problem remained. “How do we organize the Department of Defense for manhunts?” Rumsfeld asked. “We are obviously not well organized at the present time.”<sup>8</sup> In the early 2000s, the U.S. military apparatus was not yet ready to roll out on a worldwide scale the sort of missions that normally are assigned to the police within a domestic framework: namely, the identification, tracking, location, and capture (but in actual fact the physical elimination) of suspect individuals.

Within the United States, not all the high-ranking officers who were informed of these plans greeted them with enthusiasm. At the time, journalist Seymour Hersh noted that many feared that the proposed type of operation—what one advisor to the Pentagon called “preemptive manhunting”—had the potential to turn into another Phoenix Program, the sinister secret program of murder and torture that had once been unleashed in Vietnam.<sup>9</sup>

Of course, there was the additional problem of how to legally justify these hybrid operations, the *enfants terribles* of



the police and the army. At the levels of both warfare theory and international law, they seemed to be conceptual monstrosities. But we shall be returning to this point.

In any case, a new strategic doctrine became necessary. Researchers set about defining the “manhunting theoretical principles” that could provide a framework for such operations.<sup>10</sup> George A. Crawford produced a summary of these in a report published in 2009 by the Joint Special Operations University. This text, which set out to make “manhunting a foundation of US national strategies,”<sup>11</sup> in particular called for the creation of a “national manhunting agency,” which would be an indispensable instrument for “building a manhunting force for the future.”<sup>12</sup>

The contemporary doctrine of hunting warfare breaks with the model of conventional warfare based on concepts of fronts and opposed battle lines facing up to each other. In 1916, General John J. Pershing launched a vast military offensive in Mexico in an unsuccessful attempt to lay hands on the revolutionary Pancho Villa. For American strategists who cite this historical precedent as a counterexample, it was a matter of reversing polarity: faced with the “asymmetrical threats” posed by small mobile groups of “nonstate actors,” they should use small, flexible units, either human or—preferably—remotely controlled, in a pattern of targeted attacks.

Contrary to Carl von Clausewitz’s classical definition, the fundamental structure of this type of warfare is no longer that of a duel, of two fighters facing each other. The paradigm is quite different: a hunter advancing on a prey that flees or hides from him. The rules of the game are not the same. “In the competition between two enemy combatants,” wrote Crawford, “the goal is to win the battle by defeating the adversary: both combatants must confront to win. However, a manhunt scenario differs in that each player’s strategy

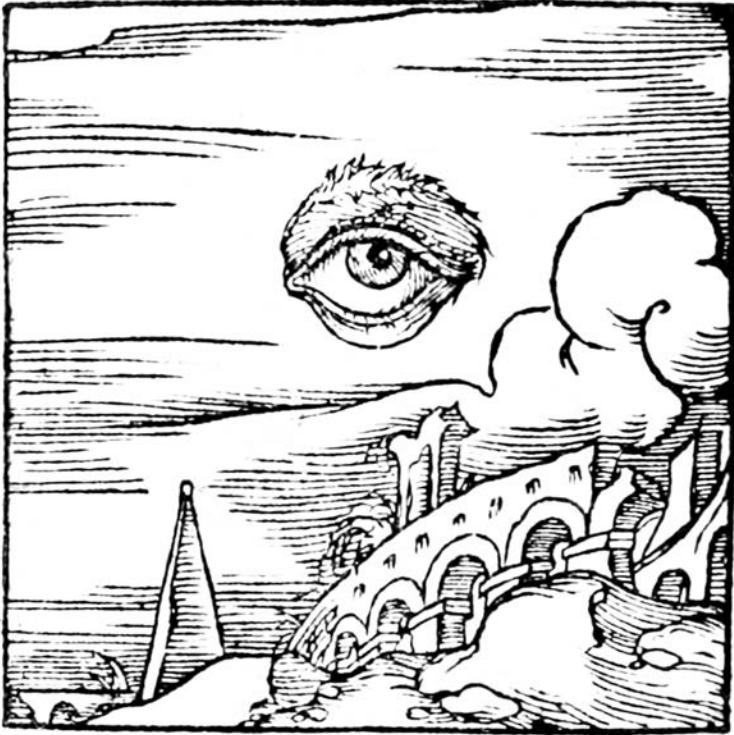
is different. The fugitive always wants to avoid capture; the pursuer must confront to win, whereas the fugitive must evade to win.”<sup>13</sup> The hostile relationship now boils down, as in a game of hide-and-seek, to “a competition between the hiders and the seekers.”<sup>14</sup>

The primary task is no longer to immobilize the enemy but to identify and locate it. This implies all the labor of detection. The modern art of tracking is based on an intensive use of new technologies, combining aerial video surveillance, the interception of signals, and cartographic tracking. The profession of manhunters now has its own technocratic jargon: “Nexus Topography is an extension of the common practice of Social Network Analysis (SNA) used to develop profiles of HVIs. . . . Nexus Topography maps social forums or environments, which bind individuals together.”<sup>15</sup>

In this model the enemy individual is no longer seen as a link in a hierarchical chain of command: he is a knot or “node” inserted into a number of social networks. Based on the concepts of “network-centric warfare” and “effects-based operations,” the idea is that by successfully targeting its key nodes, an enemy network can be disorganized to the point of being practically wiped out. The masterminds of this methodology declare that “targeting a single key node in a battlefield system has second, third, n-order effects, and that these effects can be accurately calculated to ensure maximum success.”<sup>16</sup> This claim to predictive calculation is the foundation of the policy of prophylactic elimination, for which the hunter-killer drones are the main instruments. For the strategy of militarized manhunting is essentially *preventive*. It is not so much a matter of responding to actual attacks but rather of preventing the development of emerging threats by the early elimination of their potential agents—“to detect, deter, disrupt, detain or destroy networks before they

can harm”<sup>17</sup>—and to do this in the absence of any direct, imminent threat.<sup>18</sup>

The political rationale that underlies this type of practice is that of social defense. Its classic instrument is the security measure, which is “not designed to punish but only to preserve society from the danger presented by the presence of dangerous beings in its midst.”<sup>19</sup> In the logic of this security, based on the preventive elimination of dangerous individuals, “warfare” takes the form of vast campaigns of extrajudicial executions. The names given to the drones—Predators (birds of prey) and Reapers (angels of death)—are certainly well chosen.



## Quo modo Deum.

The eye of God. From Horapollon, *Ori Apollinis Niliaci: De sacris notis et sculpturis libri duo* (Paris: Kerver, 1551), 222.

## Surveillance and Annihilation

It's kind of like having God overhead. And lightning comes down in the form of a Hellfire.

—Colonel Theodore Osowski

Seeking the eye of God,  
I saw only a socket,  
huge, black and bottomless  
where night which inhabits it  
sends rays over the world  
and always thickens.

—Gérard de Nerval, *Les Chimères*

The eye of God, with its overhanging gaze, embraces the entire world. Its vision is more than just sight: beneath the skin of phenomena it can search hearts and minds. Nothing is opaque to it. Because it is eternity, it embraces the whole of time, the past as well as the future. And its knowledge is not just knowledge. Omniscience implies omnipotence.

In many respects, the drone dreams of achieving through technology a miniature equivalence to that fictional eye of God. As one soldier writes, “Using the all-seeing eye, you will find out who is important in a network, where they live, where they get their support from, where their friends are.”<sup>1</sup> Then all you have to do is “wait till these people have gone

down a lonely stretch of road and take them out with a Hell-fire missile.”<sup>2</sup>

The promoters of drones emphasize that these machines have “revolutionized our ability to provide a constant stare against our enemy.”<sup>3</sup> Therein, it seems, lies their fundamental contribution: a revolution in sighting. But in what sense? Their innovations can be listed as several major principles.

1. *The principle of persistent surveillance or permanent watch.*

Freed from the constraints that a pilot’s body imposed, a drone can remain in the air for a long time. For twenty-four hours its gaze can remain constant; a mechanical eye has no lids. While the machine patrols, its operators, on the ground, watch the screen in eight-hour shifts. The removal of crews from the cockpit has made it possible for their work to be thoroughly reorganized, and it is really this socialized reduction of the need for human eyes, over and above the technological powers of the machine, that ensures a “constant geo-spatial ‘overwatch’” by the institutional eye.<sup>4</sup>

2. *The principle of a totalization of perspectives or a synoptic viewing.*

The second major principle makes the watch total as well as persistent. This is the notion of “wide area surveillance”: see everything, all the time. This extension of the field of vision is likely to be entrusted to new and revolutionary optical devices still in the process of being developed. Equipped with such systems of synoptic imagery, a drone would have at its disposal not just one but dozens of high-resolution microcameras facing in every direction, like the multiple facets of the eye of a fly. A software system would aggregate the various images in real time into a single overall view that could be seen in detail when necessary.<sup>5</sup> The result would

be the equivalent of a high-resolution satellite image, on the scale of an entire town or region, but transmitted both live and in streaming video. The teams of operators could, if they wished, zoom in on a particular area or a particular individual at any time. Equipped with such a system, a single hovering machine would be the equivalent of a network of video surveillance cameras positioned over an entire town. The drone would become “all-seeing.”

In practice, however, there is still a long way to go. A current military report declares that existing “all-seeing” devices are neither efficient nor well adapted, with insufficient resolution, particularly for efficiently tracking individuals, and with worrying deficiencies in their locational system.<sup>6</sup> But what concerns me at the moment are the main principles of this kind of reasoning, without regard to their present efficacy.

*3. The principle of creating an archive or film of everyone's life.*

Optical surveillance is not limited to the present time. It also assumes the important function of recording and archiving. “The idea behind persistent surveillance is to make a movie of a city-size area, with the goal of tracking all the moving vehicles and people,” says John Marion, director of the persistent surveillance program for Logos Technologies.<sup>7</sup> Once such a movie of every life and everything is completed, it could be rerun thousands of times, each time focusing on a different person, zooming in on him or her so as to reexamine that person's own particular history. One could select scenes, rewind, replay, or fast-forward, navigating as one wished through not only space but also time. Once an event had taken place, one could backtrack to study its genealogy. For example, “if a whole town could be surveilled at once, . . . car bombs could be traced back to their points of

origin.”<sup>8</sup> The total archive would ensure the retrospective traceability of all movements and all their past histories.

However, all this would presuppose capacities to store, index, and analyze data that the systems presently in place do not possess.<sup>9</sup> The press informs us that in the course of 2009 alone, American drones generated the equivalent of twenty-four years’ worth of video recording.<sup>10</sup> And the new ARGUS-IS wide-area surveillance system promises “to generate several terabytes [of data] per minute, hundreds of times greater than previous-generation sensors.”<sup>11</sup> But that is precisely the problem: a “data overload,” an excess or avalanche of data, the profusion of which will end up making the information unusable.

In an effort to resolve this problem, the Pentagon went to the sports stadium. The production of football broadcasts has resulted in a variety of innovative technologies. In every game, dozens of cameras film the players from every angle. Every sequence is instantly indexed on a database. Thanks to efficient software, the control room staff can run replays from a variety of angles while displaying statistics on the screen. As Larry James, Air Force deputy chief of staff for intelligence, surveillance, and reconnaissance, explains, “When it comes to collecting and analyzing data, sports broadcasters are far ahead of the military.”<sup>12</sup> After sending emissaries into ESPN’s studios, the U.S. military decided to acquire a modified version of the software that it used.<sup>13</sup> After all, their concerns are similar: “While sportscasters want to collect and catalog video on a specific player or a winning shot, the military wants the same capacity to follow insurgents and bombings.”<sup>14</sup> As Walter Benjamin long ago predicted, future warfare would present a new “face which will permanently replace soldierly qualities by those of sports; all action will lose its military character, and war will assume the countenance of record-setting.”<sup>15</sup>



The next stage in technology would be to make the indexing of images automatic. Instead of having to enter “tags” or metadata manually, this painstaking task would be entrusted to machines. But for this to be possible, there would have to be software capable of describing things and actions, that is, automatically transcribing aggregates of pixels into names, verbs, and propositions. The Defense Advanced Research Projects Agency (DARPA) funds cognitive scientists to conduct this type of research, which is designed to construct “integrated cognitive systems for automatized video-surveillance.”<sup>16</sup>

We should imagine eventual scribe-machines, flying robotized clerks that, in real time, would record the smallest actions occurring in the world below—as if, in parallel to the life of human beings, the cameras that already capture animated images would now set about producing a circumstantial account of them. But those lines of text, a meticulous chronicle of every fact and gesture, would at the same time constitute something more: a great index, an informative catalog of an immense video library in which everyone’s life would become retrospectively researchable.

#### *4. The principle of data fusion.*

Drones have not only eyes but also ears and many other organs. For example, “Predator and Reaper drones also can interpret electronic communications from radios, cell phones or other communication devices.”<sup>17</sup> The archival aim would be to fuse together these different layers of information and pin them all together so as to combine in a single item all the informational facets of one particular event: for example, associating a particular telephone call with a particular video sequence and particular GPS coordinates. This is the aim of data fusion.<sup>18</sup>

5. *The principle of the schematization of forms of life.*

Derek Gregory notes that the ability to integrate data produced by a variety of sources—“combining the where, the when, and the who”—into a three-dimensional array “replicates the standard time-geography diagrams developed by the Swedish geographer Torsten Hägerstrand in the 1960s and 1970s.”<sup>19</sup> This extremely inventive development in human geography set out to draw maps of a new kind, spatio-temporal graphs that would show the course of lives in three dimensions, with all their cycles and itineraries but also their accidents and deviations. In a cruel perversion, this idea of a cartography of lives has today become one of the main epistemic bases of armed surveillance. The aim is to be able “to follow several individuals through various social networks in order to establish a form or pattern of life that conforms with the paradigm of ‘information based on activity,’ which today constitutes the heart of the counter-insurgency doctrine.”<sup>20</sup>

Contrary to what one might imagine, the main objectives of these continuous surveillance devices is not so much to tail individuals already known, but rather to spot the emergence of suspect elements based on their unusual behavior. Because this model of information is predicated on an analysis of behavior patterns rather than the recognition of nominal identities, it claims to be able, paradoxically, to “identify” individuals who remain anonymous—in other words, to describe them by behavior that reflects a particular profile. This is identification that is not individual but generic.<sup>21</sup>

6. *The principle of the detection of anomalies and preemptive anticipation.*

Images are scanned in order to pick out, amid masses of activity, events that seem pertinent to the focus on security. These are detectable because of their anomaly or irregularity. Any behavior that diverges from the web of habitual

activities may indicate a threat. “According to an Air Force intelligence analyst who spoke on condition of anonymity, analyzing imagery captured by drones is like a cross between police work and social science. The focus is on understanding ‘patterns of life,’ and deviations from those patterns. For example, if a normally busy bridge suddenly empties, that might mean the local population knows a bomb is planted there. ‘You’re now getting into a culture study,’ says the analyst. . . . [You’re] looking at people’s lives.”<sup>22</sup> Gregory sums this up as follows: “Essentially, the task consists in distinguishing between ‘normal’ and ‘abnormal’ activity in a kind of militarized rhythm-analysis that takes on increasingly automatized forms.”<sup>25</sup>

Automatic detection of abnormal behavior operates by predicting the possible developments resulting from different types of behavior.<sup>24</sup> Having noted the characteristic features of a familiar sequence in a particular situation, analysts claim to be able to make probable inferences about future developments, and intervene so as to prevent those developments from ever occurring. Thus recognition of particular scenarios can serve as the basis for early threat detection.<sup>25</sup>

Predicting the future is based on knowledge of the past. The archives of lives constitute the basis for claims that, by noting regularities and anticipating recurrences, it is possible both to predict the future and to change the course of it by taking preemptive action. Such claims are clearly founded upon very fragile epistemological bases, which in no way prevents them from being extremely dangerous but, on the contrary, ensures that they are.

The names given to these devices are very revealing: Argus<sup>26</sup> and Gorgon Stare.<sup>27</sup> In Greek mythology, Argus, the figure with a hundred eyes, was also known as Panoptes, “the one who sees all.” Jeremy Bentham’s panopticon, analyzed by Michel Foucault, was originally an architectural

contraption. In a carrying forward of this pattern, in recent decades cities have been stuffed with video surveillance cameras. Surveillance by means of drones is more economical, as it involves no spatial alterations, nor does it require anything to be affixed to walls. Air and sky are all that are needed. As in the film *Eyeborgs*, the cameras are detached from walls and thereupon acquire wings and weapons.<sup>28</sup> We are entering into the era of winged and armed panoptics. As for the gaze of the Gorgon, it turned to stone all those unfortunate enough to encounter it. It was a gaze that killed. At this point, it is a matter no longer of surveillance and punishment but of *surveillance and annihilation*.

David Rohde, a *New York Times* journalist kidnapped in 2008 and held in Waziristan for seven months, was one of the first Westerners to describe the effects that this lethal continuous surveillance produced upon the populations subjected to it. Evoking a “hell on earth,” he added: “The drones were terrifying. From the ground, it is impossible to determine who or what they are tracking as they circle overhead. The buzz of a distant propeller is a constant reminder of imminent death.”<sup>29</sup>

The accounts collected in this region by the authors of a 2012 report titled “Living Under the Drones” are in a similar vein:

They’re always surveying us, they’re always over us, and you never know when they’re going to strike and attack.<sup>30</sup>

Everyone is scared all the time. When we’re sitting together to have a meeting, we’re scared there might be a strike. When you can hear the drone circling in the sky, you think it might strike you. We’re always scared. We always have this fear in our head.<sup>31</sup>

Drones are always on my mind. It makes it difficult to sleep. They are like a mosquito. Even when you don't see them, you can hear them, you know they are there.<sup>52</sup>

Children, grown-up people, women, they are terrified. . . . They scream in terror.<sup>53</sup>

One inhabitant of Datta Khel—a place hit more than thirty times by drones in the course of the past three years—says that his neighbors “have lost their mental balance . . . are just locked in a room. Just like you lock people in prison, they are locked in a room.”<sup>54</sup>

Drones are indeed petrifying. They inflict mass terror upon entire populations. It is this—over and above the deaths, the injuries, the destruction, the anger, and the grieving—that is the effect of permanent lethal surveillance: it amounts to a psychic imprisonment within a perimeter no longer defined by bars, barriers, and walls, but by the endless circling of flying watchtowers up above.

## Pattern-of-Life Analysis

Enemy leaders look like everyone else; enemy combatants look like everyone else; enemy vehicles look like civilian vehicles; enemy installations look like civilian installations; enemy equipment and materials look like civilian equipment and materials.

—American Defense Science Board

“It is the strangest of bureaucratic rituals,” write two *New York Times* reporters. “Every week or so, more than 100 members of the government’s sprawling national security apparatus gather, by secure video teleconference, to pore over terrorist suspects’ biographies and recommend to the president who should be the next to die.”<sup>1</sup> In Washington, this weekly meeting has been labeled “Terror Tuesday.” Once established, the list of nominees is sent to the White House, where the president orally gives his approval to each name. With the “kill list” validated, the drones do the rest.

The criteria that go into making these lists of people condemned to death without trial remain unknown. The administration refuses to provide any information on this subject. Harold Koh, the State Department’s legal adviser, nevertheless tried to be reassuring: “Our procedures and practices for identifying lawful targets are extremely robust, and advanced technologies have helped to make our targeting even more precise.”<sup>2</sup> In short: *Trust us, even blindfolded.*

Apart from these “personal strikes,” there are also “signature strikes,” here meaning strikes authorized on the basis of traces, indications, or defining characteristics. Such strikes target individuals whose identity remains unknown but whose behavior suggests, signals, or signs membership in a “terrorist organization.”

In such cases, the strike is made “without knowing the precise identity of the individuals targeted.” It depends solely on their behavior, which, seen from the sky, appears to “correspond to a ‘signature’ of pre-identified behavior that the United States links to militant activity.”<sup>5</sup> Today, strikes of this type, against unknown suspects, appear to constitute the majority of cases.<sup>4</sup>

To locate these anonymous militants, targeters “rely on what officials describe as ‘pattern of life analysis,’ using evidence collected by surveillance cameras on the unmanned aircraft and from other sources about individuals and locations. . . . The information then is used to target suspected militants, even when their full identities are not known.”<sup>5</sup> As one Reaper drone operator explains, “We can develop those patterns of life, determine who the bad guys are, and then get the clearance and go through the whole find, fix, track, target, attack cycle.”<sup>6</sup>

Each and every person has a particular form or pattern of life. Your daily actions are repetitive, your behavior has certain regularities. For example, you rise at roughly the same hour and regularly make the same journey to work or elsewhere. You frequently meet up with the same friends in the same places. If you are placed under surveillance, it is possible to record all your movements and establish a spatiotemporal map of all your usual doings. Furthermore, by intercepting your telephone calls, observers can superimpose your social network upon this map, determine which are your personal links, and calculate the importance of each one

in your life. As an American army manual explains: “While the enemy moves from point to point, reconnaissance or surveillance tracks and notes every location and person visited. Connections between those sites and persons to the target are built, and nodes in the enemy’s network emerge.”<sup>7</sup> Once this network of places and links in your life is established, it will be possible to predict your behavior: if it is not raining, on Saturday you will probably go jogging in a particular park at a particular time. But an observer may also perceive suspicious irregularities: today you have not followed your usual route, and you have met with someone in an unusual place. Any interruption of the norm that you yourself have established by your habits, any departure from your regular behavior, can sound an alarm bell: something abnormal and therefore potentially suspect is happening.

An analysis of the pattern of a person’s life may be defined more precisely as “the fusion of link analysis and a geospatial analysis.”<sup>8</sup> For some idea of what is involved here, imagine a superimposition, on a single map, of Facebook, Google Maps, and an Outlook calendar. This would be a fusion of social, spatial, and temporal particulars, a mixed mapping of the *socius*, *locus*, and *tempus* spheres—in other words, a combination of the three dimensions that, not only in their regularities but also in their discordances, constitute a human life.

This method stems from activity-based intelligence, or ABI. From the mass of information collected about a particular individual, group, or place gradually emerge patterns, or traceable themes. Activity becomes an alternative to identity. Once a target has been named, instead of trying to localize it, do quite the opposite. Start by establishing surveillance and gathering information. Next, make large-scale graphs to do an analysis of “big data,” picking out nodular points that, by reason of the position and scale they occupy on the diagram, can be identified as threats that need to be neutralized.



“By compiling activity-based association data with its meta-data over time and adding analysis and reporting from many analysts,” wrote Keith L. Barber of the National Geospatial-Intelligence Agency, “a rich archive will be formed to harvest patterns of life, networks and abnormalities which may have been overlooked otherwise.”<sup>9</sup> The tools of human geography and the sociology of social networks are now enlisted in the service of a policy of eradication in which “persistent surveillance” makes it possible to pick out dangerous individuals. The painstaking work of establishing an archive of lives progressively gathers together the elements of a file that, once it becomes thick enough, will constitute a death warrant.

Officials claim that these methods ensure selective targeting. “You can track individuals and—patiently and carefully—build up a picture of how they move, where they go and what they see,” noted a U.S. counterterrorism official.<sup>10</sup> Those who end up being killed “are people whose actions over time have made it obvious that they are a threat,” added another.<sup>11</sup>

But the whole problem—at once epistemological and political—lies in this claimed ability to be able to correctly convert an assembly of probable indices into a legitimate target.

Both the means and the methodology are patently limited. As a former CIA officer admits, “You can only see so much from 20,000 feet.”<sup>12</sup> A drone can distinguish shapes only more or less imprecisely. For example, in April 2011, American drones were “unable to discriminate the highly distinctive combat outline of two Marines (with full battle equipment) from the irregular enemy.”<sup>13</sup> A telling joke made in the corridors of American power went, “When the CIA sees three guys doing jumping jacks, the agency thinks it’s a terrorist training camp.”<sup>14</sup>

On March 17, 2011, an American strike decimated a group of men meeting in Datta Khel, Pakistan, on the grounds that “they acted in a manner consistent with AQ [al-Qaeda]-linked militants.”<sup>15</sup> The manner of their gathering corresponded to that predefined as resembling terrorist behavior. But the meeting observed from the skies was actually a traditional assembly, a *jirga*, convoked to resolve a disagreement in the local community. Seen from the sky, a village meeting looks just like a gathering of militants. Between nineteen and thirty civilians are estimated to have perished in the attack.

On September 2, 2010, the American authorities announced that they had eliminated an important Taliban leader in Afghanistan. But in actual fact the missiles had killed Zabet Amanullah, a civilian engaged in an electoral campaign, as well as nine other people. That confusion was possible only because of the excessive faith placed in quantitative analysis (necessary, however, for this kind of device): the analysts had concentrated on SIM card data, the interception of phone calls, and graphs of social networks. Special forces troops told journalist Kate Clark that “they were not tracking the name, but targeting the telephones.”<sup>16</sup>

As for establishing the truth, quantity of indications cannot be converted into quality. And that is certainly the problem since, as Gareth Porter explains,

the link analysis methodology employed by intelligence analysis is incapable of qualitative distinctions among relationships depicted on their maps of links among “nodes.” It operates exclusively on quantitative data—in this case the number of phone calls to or visits made to a pre-existing JPEL target or to other numbers in touch with that target. The inevitable result is that more numbers of phones held by civilian non-combatants show up on the charts of insurgent networks. If the phone records

show multiple links to numbers already on the “kill/capture” list, the individual is likely to be added to the list.<sup>17</sup>

In short, according to this theory, group membership and identity can be deduced from the number and frequency of contacts, regardless of their nature. Thus it is inevitable that, as one officer concluded, “if we decide [someone is] a bad person, the people with him are also bad.”<sup>18</sup>

This profiling method works only with schemas. And a single schema may, by definition, correspond to a number of heterogeneous phenomena. Imagine that you see a shadow resembling a huge dog. If you have access only to the shadow, how can you tell with certainty what object created it? It may simply have been made by an arrangement of someone’s hands as part of a shadow play.

It is nevertheless on the strength of such epistemological bases that “signature strikes” are today made by American drones. The authorities have built themselves a theater of shadows, but “the result, way too often, is firing blind based on ‘pattern of life’ indicators, without direct confirmation that the targets are, in fact, who we think they are—killing innocent people in the process.”<sup>19</sup>

That echoed the words of a young Pakistani man, a victim, together with his family, of a drone strike, when he was asked why he thought they had been attacked: “They say there were terrorists, but it was my home. . . . There are no terrorists. It’s just common people with beards.”<sup>20</sup>

## Kill Box

Nothing man can do on the surface of the earth can interfere with a plane in flight, moving freely in a third dimension.

—Giulio Douhet

With the concept of a “global war against terror,” armed violence has lost its traditional limits: indefinite in time, it is also indefinite in space.<sup>1</sup> The whole world, it is said, is a battlefield. But it would probably be more accurate to call it a hunting ground. For if the scope of armed violence has now become global, it is because the imperatives of hunting demand it.

While warfare is defined, in the last analysis, by combat, hunting is essentially defined by pursuit. Two distinct types of geography correspond to the two activities. Combat bursts out wherever opposing forces clash. Hunting, on the other hand, takes place wherever the prey goes. As a hunter-state sees it, armed violence is no longer defined within the boundaries of a demarcated zone but simply by the presence of an enemy-prey who, so to speak, carries with it its own little mobile zone of hostility.

In order to elude its pursuers, the prey endeavors to render itself undetectable or inaccessible. Now, inaccessibility is a matter not simply of the topography of the landscape—bushy heaths or deep crevices—but also of the asperities of political geography. As the theorists of manhunting remind

us, “borders are among the greatest allies” that a fugitive can have.<sup>2</sup> Out in the countryside, English common law used to authorize “the hunting of ravenous prey, such as badgers and foxes, in another man’s land, because destroying such creatures is said to be profitable to the Public.”<sup>3</sup> That is the kind of right that the United States today would like to claim in the case of human prey worldwide.<sup>4</sup> As Paul Wolfowitz has put it, we need “to deny them sanctuaries.”<sup>5</sup>

What is emerging is the idea of an invasive power based not so much on the rights of conquest as on the rights of pursuit: a right of universal intrusion or encroachment that would authorize charging after the prey wherever it found refuge, thereby trampling underfoot the principal of territorial integrity classically attached to state sovereignty. According to such a concept, the sovereignty of other states becomes a contingent matter. Full enjoyment of that sovereignty is recognized only if those states take imperial tracking to heart. If they do not—“failed” states cannot, “rogue” states will not—their territories can legitimately be violated by a hunter-state.

The drone counters the terrestrial forms of territorial sovereignty, founded upon the enclosure of land, with the continuity of the air above. In doing so, it extends the great historical promises of aerial power. As Douhet puts it, the aerial weapon, unaffected by harsh landscapes, “moves freely through a third dimension.”<sup>6</sup> It draws its own lines in the sky.

By becoming stratospheric, an imperial power alters its relationship to space. It now becomes a matter not so much of occupying a territory as of controlling it from above by ensuring its mastery of the skies. Eyal Weizman has explained a whole sector of contemporary Israeli strategy in those terms, describing it as a politics of verticality. In this “technology versus occupation model,”<sup>7</sup> the point is to “maintain

domination of the evacuated areas by means other than territorial control.”<sup>8</sup> This verticalization of power implies a form of above-the-ground authority, in which everything—every individual, every house, every street, even the smallest event—“can thus be monitored, policed or destroyed from the air.”<sup>9</sup>

The question of sovereignty now assumes an aeropolitical dimension<sup>10</sup>: who is it that holds the power over the air, and over the airwaves as well?<sup>11</sup> Alison Williams, who emphasizes the importance of thinking of political geography as a three-dimensional phenomenon, speaks of “a crisis of aerial sovereignty.”<sup>12</sup> The repeated violations of subordinate aerial spaces by U.S. drones constitute one of today’s most striking examples. Just as sovereignty is no longer flatly territorial but instead volumetric and three-dimensional, so too are the ways to challenge or deny it.

Stephen Graham explains that classical military doctrines used to rely on “the horizontal projection of power across an essential ‘flat’ and featureless geopolitical space.”<sup>13</sup> Today that mode of projection has been replaced or supplemented by another. To put that in very schematic terms, we have switched from the horizontal to the vertical, from the two-dimensional space of the old maps of army staffs to geopolitics based on volumes.

In contemporary doctrines of aerial power, operational space is no longer regarded as a homogeneous and continuous area. It has become “a dynamic mosaic where insurgent objectives and tactics may vary by neighborhood.”<sup>14</sup> We should see it as a patchwork of squares of color, each of which corresponds to specific rules of engagement.

But those squares are also, and above all, *cubes*. This is the central concept of the “kill box,” a notion that emerged in the early 1990s: “The kill box is graphically portrayed by a solid black line defining the area with diagonal black

lines within.”<sup>15</sup> One should imagine a theater of operations portrayed on a screen in 3-D as a set of cubes laid out on a surface divided into squares.

A “kill box” has a particular life cycle: it is opened, activated, frozen, and then closed. One can follow these developments on a screen, rather like the defragmentation of a hard disc: small clusters that are activated and change color as they are used.

“When established, the primary purpose of a kill box is to allow air assets to conduct interdiction against surface targets without further coordination with the establishing commander.”<sup>16</sup> Once one recognizes that “the mosaic nature of COIN [counterinsurgency] is ideally suited to decentralized execution,”<sup>17</sup> each cube becomes “an autonomous zone of operations” for the combat units assigned to it.<sup>18</sup> To put this more clearly: within a given cube, one may fire at will. A kill box is a temporary autonomous zone of slaughter.

In this model, the conflict zone appears as a space fragmented into a provisional multitude of kill boxes that can be activated in a manner both flexible and bureaucratic. As General Richard P. Formica explained, with undisguised enthusiasm, in an e-mail: “Kill boxes enable us to do what we wanted to do for years . . . rapidly adjust the delineation of battlespace. . . . Now with automation technology and USAF [U.S. Air Force] employment of kill boxes, you really have a very flexible way of delineating battlespace both in time and on the ground.”<sup>19</sup>

In a memo addressed in 2005 to secretary of defense Donald Rumsfeld, the president of the RAND Corporation advised him that “a non-linear system of ‘kill boxes’ should be adopted, as technology permits,” for counterinsurgency operations.<sup>20</sup> He stressed the following essential point: “Kill boxes can be sized for open terrain or urban warfare and opened or closed quickly in response to a dynamic military situation.”<sup>21</sup>

This twofold principle of intermittence and scalar modulation for the kill box is of capital importance: it makes it possible to envisage extending such a model beyond the zones of declared conflict. Depending on the contingencies of the moment, temporary lethal microcubes could be opened up anywhere in the world if an individual who qualifies as a legitimate target has been located there.

When American army strategists imagine what drones will be like in twenty-five years, they begin by getting an infographist to create a composite image of a typical Arab town, complete with mosque, other buildings, and palm trees. In the sky are what appear to be dragonflies, but they are actually nano-drones, autonomous robotic insects capable of marauding in a swarm and “navigating in increasingly confined spaces.”<sup>22</sup>

With devices such as these, armed violence could be unleashed in tiny spaces, in microcubes of death. Rather than destroy an entire building in order to eliminate one individual, a miniaturized could be sent through a window, and the impact of the resulting explosion could be confined to one room or even one body. Your room or study could become a war zone.

Even before the advent of the micromachines of the future, drone partisans are already emphasizing the technological precision of their weapons. But the paradox is that they use this supposed gain in precision to extend the field of fire to take in the entire world. What we find here is a double movement that seizes upon the spatiolegal notion of an armed conflict zone in a way that tends to dislocate it almost completely. The two principles of this paradoxical dismemberment are the following: (1) The zone of armed conflict, having been fragmented into miniaturizable kill boxes, tends *ideally* to be reduced to the body of the enemy or prey. That is, his body becomes the battlefield. This is the principle of



*precision or specification.* (2) In order for the pursuit and surgical strikes to be carried out, this mobile microspace must be able to be aimed wherever necessary—so the whole world becomes a hunting ground. That is the principle of *globalization* or *homogenization*. According to the military and the CIA, it is because we can aim at our targets with precision that we can strike them down wherever we choose, even outside any war zone.

Similarly, a whole contingent of U.S. lawyers today claim that the notion of a “zone of armed conflict” should no longer be interpreted in a strictly geographic sense. That geocentric concept, supposedly out of date, is now opposed to a target-centered one that is attached to the bodies of the enemy-prey. The conflict zone now “goes where they go, irrespective of geography,”<sup>23</sup> and “the boundaries of the battlefield are not determined by geopolitical lines but rather by the location of participants in an armed conflict.”<sup>24</sup>

One of their principal arguments, of a pragmatic rather than legal nature, is borrowed directly from the discourse of the American administration. The geocentric interpretation of the laws of warfare must be thrown overboard, they obediently insist, because to extend it would in effect “create sanctuaries for terrorist organizations in any state . . . in which law enforcement is known to be ineffective.”<sup>25</sup> But that argument, lurking beneath the semantic debate, also reveals what is at stake politically: it aims to justify the use of lethal policing powers regardless of borders.

As Derek Gregory points out, one of the problems is that the “legal logic through which the battlespace is extended beyond the declared zone of combat in Afghanistan is itself infinitely extendable.”<sup>26</sup> By redefining the notion of armed conflict as a mobile place attached to the person of the enemy, one ends up, under cover of the laws of armed conflict, justifying the equivalent of a right to execute suspects

anywhere in the world, even in zones of peace, illegally and without further procedures, one's own citizens included.<sup>27</sup> Where will all this end? That is the question that the NGO Human Rights Watch put to Barack Obama in 2010: "The notion that the entire world is automatically by extension a battleground in which the laws of war are applicable is contrary to international law. How does the administration define the 'global battlefield' . . . ? Does it view the battlefield as global in a literal sense, allowing lethal force to be used, in accordance with the laws of war, against a suspected terrorist in an apartment in Paris, a shopping mall in London, or a bus station in Iowa City?"<sup>28</sup>

Reacting to the dangers of such an interpretation, critics defend a more classical notion of a zone of armed conflict, emphasizing the fundamental idea that armed violence and the laws that govern it operate within the context of space. That is, as a legal category, warfare is and should be a *geographically defined object*. Is one feature of armed conflict the fact that it occupies a particular place, a definable zone? Despite its apparent abstraction, this ontological question has decisive political implications. If the answer to that question is affirmative, a succession of truisms follow: war and peace have a legal geography if they are conceived to be states that succeed one another not only in time but also within definable spaces. A zone is a zone, a portion of space that is circumscribed, with limits, having an inside and an outside; an armed conflict is an armed conflict, characterized by a certain intensity of violence. But these simple definitions have extremely important normative implications, starting with the following: if the special laws of war apply only in the place where the fighting takes place, then beyond that place one has no right to behave as a warrior.

As the jurist Mary Ellen O'Connell, who describes the present-day drone strikes in Pakistan, Somalia, and Yemen

as illegal, reminds us: “Drones launch missiles or drop bombs, the kind of weapons that may only be used lawfully in armed conflict hostilities.”<sup>29</sup> The fact is that “there was no armed conflict on the territory of Pakistan because there was no intense armed fighting between organized armed groups. International law does not recognize the right to kill with battlefield weapons outside an actual armed conflict. The so-called ‘global war on terror’ is not an armed conflict.”<sup>30</sup> These strikes therefore constitute grave violations of the laws of war.

It is immediately clear that the proposed globalized man-hunts stand in contradiction to this traditional interpretation of the law. Hence their promoters’ intensive attempts to contest that view of the situation and to dismiss the notion that armed conflicts presuppose an implicit geographical ontology.<sup>31</sup> In the present struggle to extend the hunting domain, jurists stand in the front line, and the ontology that they apply constitutes their field of battle.<sup>32</sup> The question “What is a place?” becomes a matter of life or death. Perhaps the time has come to remember that by geographically confining the licit exercise of violence, the fundamental legal aim was to *circumscribe* it.

## Counterinsurgency from the Air

Air power contains the seeds of our own destruction if we do not use it responsibly. We can lose this fight.

—General Stanley A. McChrystal

When Ernesto “Che” Guevara wrote these lines, in 1960, they were still true:

One of the favorite arms of the enemy army, supposed to be decisive in modern times, is aviation. Nevertheless, this has no use whatsoever during the period that guerrilla warfare is in its first stages, with small concentrations of men in rugged places. The utility of aviation lies in the systematic destruction of visible and organized defenses; and for this there must be large concentrations of men who construct these defenses, something that does not exist in this type of warfare.<sup>1</sup>

Up until very recently, in what used to be called the “imperialist camp,” strategists of counterinsurgency warfare subscribed to Guevara’s opinion. Against bunches of furtive combatants, as skilled at hiding in the mazes of the landscape as in the recesses of society, aerial weapons were considered totally impotent or—worse still—counterproductive. In the absence of concentrations of troops detectable from the sky, bombing inevitably implied a bloodbath among the civilian

population. But in reality the reasons for rejecting this doctrine were less moral than strategic: while the declared objective of counterinsurgency warfare was to rally the civilian population, the use of blind violence was likely to have the opposite effect, driving civilians into the arms of the enemy. Hence the theoretical marginalization of aerial weaponry in this form of strategy. As late as 2006, the American army's *Counterinsurgency Field Manual* devoted no more than a few pages to aerial weaponry, relegating them to an appendix.

In practice, however, the situation was already beginning to swing the other way. With the use of drones rapidly spreading, from the 2000s onward aviation was becoming one of the essential weapons in American counterinsurgency operations. A few strategists set about theorizing this silent changeover: their aim was to make military practice self-aware, whatever the cost of a major doctrinal upset.

Deploring the time lag between theory and practice, Air Force strategists began to call for the explicit adoption of a doctrine of aerial counterinsurgency. These supporters of airpower clashed head-on with the orthodox theorists of ground-centered counterinsurgency, “an outworn paradigm . . . too narrowly focused,” which “relegates airpower to the support role while the ground forces do the real work.”<sup>2</sup> In opposition to that archaic world, it would be necessary to accept the evidence and fully come to terms with the new air-centered strategy in which drones have already become the foremost instrument. However much certain insurgents remained, as Carl Schmitt put it, essentially “telluric,”<sup>3</sup> contemporary counterinsurgents had become “stratospheric.”

Guerrilla warfare has always posed problems for major powers, which regularly become bogged down in asymmetrical conflicts. Instead of direct confrontation, insurgents, in order to compensate for their provisional weakness, favor skirmishes and ambushes. By striking, then immediately

withdrawing, they remain elusive. The drone seems to provide a tardy resolution to this historical problem: in a radically absolute form, it turns against the guerrillas their own long-established principle, namely, *deprive the enemy of an enemy*. An insurgent confronted by an army of drones no longer has any target to attack. “We pray to Allah that we have American soldiers to kill. These bombs from the sky we cannot fight,” said Maulvi Abdullah Haijazi, an Afghan villager reacting to American strikes.<sup>4</sup> American officers delight in those words; they consider the statement as confirming the implacable efficacy of their new weapon.

In making combat impossible and transforming armed combat into execution, the aim is to annihilate the very will-power of those opposing them. As Charles Dunlap, a major general in the U.S. Air Force, explains, “Death per se does not extinguish the will to fight in such opponents; rather, it is the hopelessness that arises from the inevitability of death from a source they cannot fight.”<sup>5</sup> He goes on to say, “The precision and persistence of today’s airpower creates opportunities to dislocate the psychology of the insurgents.”<sup>6</sup> The idea is not a new one. In the twentieth century, Sir John Bagot Glubb had already expressed it in very similar terms when speaking of the aerial bombing by means of which the British put down native rebellions in the interwar period: “Their tremendous moral effect is largely due to the demoralization engendered in the tribesman by his feeling of helplessness and his inability to reply effectively to the attack.”<sup>7</sup>

It is fighting by means of terror, and no attempt is made to disguise the fact. Says Dunlap, “American precision airpower is analogous (on a much larger and more effective scale) to the effect that insurgents try to impose . . . through the use of improvised explosive devices.”<sup>8</sup> The point could not be made more clearly: at a tactical level (and setting

aside technological sophistication), drone strikes are equivalent to bomb attacks. They constitute the weapons of state terrorism.

Air force strategists are well aware of the objections that theorists of the “historical channel” of counterinsurgency never fail to raise. What the latter urge, in so many words, is to remember the lessons of the past: what is being presented as a new strategy has already been tried out, with remarkably disastrous results. The doctrine of “air control” is no different from that behind the Royal Air Force (RAF) air raids used after World War I to “disrupt and destroy villages to force the local populace to adhere to British mandates.”<sup>9</sup>

That policy ended in bitter failure. An assessment made by a British officer in 1923 describes perverse effects strangely similar to those seen today, three generations later, in the same regions of the world: “By driving the inhabitants of the bombarded area from their homes in a state of exasperation, dispersing them among neighboring clans and tribes, with hatred in their hearts at what they consider ‘unfair’ methods of warfare, these attacks bring about the exact political results which it is so important, in our own interests, to avoid, viz. the permanent embitterment and alienation of the frontier tribes.”<sup>10</sup>

As Angelina Maguinness, an intelligence officer at U.S. Special Operations Command, somewhat prophetically pointed out, in view “of the historical lessons from the implementation of RAF air control, it is *interesting* that prominent airpower theorists would offer airpower as an alternative to large ground forces in COIN strategy.”<sup>11</sup> In more emphatic terms, she goes on to reproach the partisans of the air-centered model for making a fundamental mistake about the very essence of counterinsurgency strategy: “[Airpower theorist Phillip] Meilinger fails to consider the

nature of insurgency and COIN. If the center of gravity is the population and the population resides, operates, and identifies itself in the ground dimension, then it is foolish to assume the US can modify the nature of COIN warfare to that which it wants to fight and still succeed. . . . Insurgencies are by nature primarily ground-oriented; thus, effective COIN campaigns are primarily oriented in this manner as well.”<sup>12</sup>

This debate over the respective merits of ground and air warfare is of a quasi-metaphysical nature: can counterinsurgency rise to the level of an aero-policy without losing its soul? There is of course a risk that in the course of the operation, the strategy—together with politics—may be lost in the clouds.

The partisans of counterinsurgency with drones claim to have succeeded in avoiding the mistakes of the past, and all thanks to the progress of technology. To be sure, in the past “the negative effects of imprecise weapons and collateral damage appear to have more than counteracted the tactical advantages” of aviation. In fact, they go on to say, it was those unfortunate historical experiences that lent credibility to “the truism that COIN is about boots on the ground and that airpower is counterproductive.”<sup>15</sup> But all that is now behind us: the drone is a highly technological instrument. The twofold revolution in persistent surveillance and in the precision of targeting, they declare, has consigned those old objections to the dustbins of history.

As Hannah Arendt warned us, the problem of political lying is that the liar himself ends up believing his lies.<sup>14</sup> Certainly the overall impression here seems to be that of a discursive self-intoxication. As a result of repeatedly proclaiming that drones and other surgical strikes are so accurate that they cause no more than negligible collateral damage, supporters of that strategy seem truly to have come to believe that all serious adverse effects have been eliminated. However,



the facts won't go away, and their message is quite the opposite.

David Kilcullen is certainly no pacifist. This former advisor to General David Petraeus in Iraq is today considered to be one of the United States' most eminent experts in the doctrine of counterinsurgency. In 2009 he, alongside Andrew McDonald Exum, co-signed an op-ed piece in the *New York Times* calling for a moratorium on drone strikes in Pakistan.<sup>15</sup> Their diagnosis was simple: those operations were dangerously counterproductive for American interests. People were congratulating themselves on short-term tactical successes without seeing that they would pay dearly for them at a strategic level.

In the first place, they pointed out, the end effect of such strikes was to drive the civilian population into the arms of the extremist groups that on the whole appeared "less ominous than a faceless enemy that wages war from afar and often kills more civilians than militants."<sup>16</sup> They went on to declare: "The drone strategy is similar to French aerial bombardment in rural Algeria in the 1950s, and to the 'air control' methods employed by the British in what are now the Pakistani tribal areas in the 1920s. The historical resonance of the British effort encourages people in the tribal areas to see the drone attacks as a continuation of colonial-era policies."<sup>17</sup>

Second, this anger and tendentious radicalization of public opinion were not limited to the region suffering such strikes. In a globalized world, armed violence produces transnational repercussions, and the widely shared perception is that of a hateful power that is both cowardly and contemptuous. Beware of a backlash.

Third, and perhaps above all: "The use of drones displays every characteristic of a tactic—or, more accurately, a piece of technology—substituting for a strategy."<sup>18</sup> Their final

diagnosis was that by resorting on a massive scale to a technological gadget that took the place of a genuine strategy, the state ran the risk of a rapid stupefying political effect.

What is in fact at stake here, deep down in these internal debates within the U.S. military apparatus, is nothing less than an understanding of politics. To understand this fully, a very brief and partial genealogy of the doctrines being torn apart here may be necessary.

This genealogy starts with a number of French strategists who were attempting to elaborate a counterrevolutionary strategy and had dipped into the works of Mao Zedong, Che Guevara, and many others. From their cursory reading of theories of revolutionary warfare they had, for their own purposes, noted the following fundamental thesis: the struggle is above all political. David Galula, who taught in military schools across the Atlantic after serving in Algeria, condensed those theories into a canonical formula: “The battle for the population is a major characteristic of the revolutionary war.”<sup>19</sup> Like guerrilla warfare, counterinsurgency warfare is above all political. Its center of gravity is the local population, who must be disconnected from the enemy and won over to one’s cause. The strategic aim is to marginalize the enemy and deny it its popular base.<sup>20</sup> Once that is achieved, the victory is won.

For those who adhere to this notion—Kilcullen, for example—the antagonism between insurgency and counterinsurgency is seen as “a struggle to control a contested political space.”<sup>21</sup> This cannot be engineered from outside; in order to reconquer the terrain, which is both geographical and political, you have to be there, on the spot. A terrain cannot be controlled vertically, from the skies, only horizontally, on the ground. This is particularly true when the actual “terrain” is human, namely, the population itself, starting with what it thinks, believes, and perceives. The art of counterinsurgency,

meanwhile, is “‘political warfare’ in which the perception of the action and its political results are more important than tactical successes on the field of battle.”<sup>22</sup> What is at stake are the perceived political effects of the military operations upon the population, and it is those effects that determine the pertinence of the tactics and weapons employed. As the time-honored expression has it, conquering the “hearts and minds” of the population presupposes mobilizing a whole vast spread of “military, political, economic, psychological and civic” means, among which open force is not always necessarily the principal component.<sup>23</sup> Those fine words, of course, should be set in comparison to the corresponding historical practices.

The fact remains that it is this fundamentally politico-military understanding of counterinsurgency, paradoxically inherited from a revolutionary Marxist understanding of armed violence, that today causes the advocates of the demographic- and territory-centered orthodox doctrine to reject the promotion of the drone to the position of being the almost exclusive weapon of American-style counterinsurgency. When Kilcullen opposes the technological fetishism of the drone, it is in the name of that strategic conception, following directly in the footsteps of Galula. “At the operational level counterinsurgency remains a competition between several sides, each seeking to mobilize the population in its cause,” he writes. “The people remain the prize.”<sup>24</sup>

As the counterinsurgency specialists see it, what is happening is a dangerous paradigm switch that undermines both the strategy of the American armed forces and their own institutional position within those forces. To those specialists, the dronization of operations signals the preeminence of the antiterrorism paradigm over that of counterinsurgency.

Originally, they explain, the two expressions were virtually synonymous, differing only in the way they were used.

The “antiterrorism” label was, on account of its negative connotations, used mostly as a rhetorical means of delegitimizing adverse insurrectional movements.<sup>25</sup> It was in the 1970s in Europe, faced with the actions of the Red Army Faction and the Red Brigades, that antiterrorism progressively turned itself into an independent paradigm, founded upon different principles that broke away from the classic doctrinal framework of counterinsurgency. The differences are significant.

Whereas counterinsurgency is essentially politico-military, antiterrorism fundamentally has to do with policing and security. This fundamental divergence in orientation is reflected in several other distinctive features.

First, there is a difference in the way that the enemy is conceived. Whereas the first paradigm regards insurgents as the “representatives of deeper claims at the heart of society”<sup>26</sup> (and it is important to understand the reasons for this, in order to counteract them effectively), the second one, by labeling them “terrorist,” regards them above all as “aberrant individuals,” dangerous figures, quite simply mad, or as incarnations of pure evil.

With these new labels, the targets are no longer political adversaries to be opposed, but criminals to be apprehended or eliminated. Whereas counterinsurgency strategy aims above all to “defeat the insurgents’ strategy, rather than to ‘apprehend the perpetrators’ of specific acts,”<sup>27</sup> antiterrorism adopts a strictly opposite way of proceeding: its policing logic individualizes the problem and reduces its objectives to neutralizing, on a case-by-case basis, as many suspects as possible. Whereas counterinsurgency is population-centered, antiterrorist action is individual-centered. It is a matter not of cutting the enemy off from the population but solely of rendering it impossible for him personally to do any more harm. In these circumstances, the solution lies in tracking

such people down one by one, regardless of the social or geopolitical reasons for the antagonism they express. Within the categories of policing, political analysis dissolves.

Antiterrorism, which is both moralizing and Manichean, abandons any real analysis of the roots of hostility and its own effects upon it. The binary nature of good and evil is no longer just a rhetorical ploy but is imposed as an analytical category, to the detriment of any consideration of the complexity of strategic relations. Whereas counterinsurgency strategy implies (apart from brute force) compromise, diplomatic action, pressure, and agreements, all of which operate under constraint, antiterrorism excludes any political impact upon the conflict. “We do not negotiate with terrorists” is the key phrase in radically nonstrategic thought.

Dronized manhunting represents the triumph, both practical and doctrinal, of antiterrorism over counterinsurgency. According to this logic, the total body count and a list of hunting trophies take the place of a strategic evaluation of the political effects of armed violence. Successes become statistics. Their evaluation is totally disconnected from their real effects on the ground.

The partisans of orthodox doctrine are uneasy: as they see it, in the middle or long term, this reorientation is bound to produce effects that are strategically catastrophic for American interests. Drones are without doubt excellent at pulverizing bodies from a distance but are totally unsuited to winning over “hearts and minds.” As Peter Matulich writes, “The current use of drones in counter-terrorism strikes in Pakistan is contrary to the effective COIN doctrine the US has developed over the past ten years. . . . [D]rone operations as they currently stand are of limited use if not counterproductive. Drones alone are incapable of facilitating the population-centric goals of COIN. Their use in ‘clearing’ operations produces negative effects including collateral damage and the

militarization of local populations. This not only alienates populations but can fuel further insurgency.”<sup>28</sup>

Evidence provided by a Pakistani Taliban leader, Baitullah Mehsud, illustrates the apparent truth of that thesis: “I spent three months trying to recruit and only got 10–15 persons. One US attack and I got 150 volunteers.”<sup>29</sup> This pattern seems to have been forgotten by the American forces, which is particularly surprising since it appears printed in black and white in the military’s own handbooks: “Confrontational military action, in exclusion, is counter-productive in most cases; it risks generating popular resentment, creating martyrs that motivate new recruits, and producing cycles of revenge.”<sup>30</sup> But is it really a case of forgetfulness?

Perhaps, but perhaps not; for, as defenders of the orthodox doctrine fear, it is perfectly possible that the proposed reorganization of airpower may in fact be far more radical, purely and simply doing away with the political aspects of classic counterinsurgency theory. Thus Dunlap insistently stresses that the official doctrine tends to “overemphasize what ‘hearts and mind-winning’ efforts by occupying troops can achieve.”<sup>31</sup> Furthermore, he pleads that it is important not to “undervalue the function of force in suppressing intractable insurgents.”<sup>32</sup> “Where historically there was much discussion about the effect, or the lack thereof, of airpower on the civilian populations of hostile nations, now the issue is very different: it focuses on the psychological impact on the insurgents themselves, not the civilian population.”<sup>33</sup>

What we are witnessing here is a redistribution of priorities: the yield from a policy designed to terrorize and eradicate now takes precedence over any consideration of its political effects on the population. So what if the drones make the population turn away from us? Who cares? What do the “hearts and minds” of villagers in Waziristan or anywhere

else matter? And in any case, unlike in the old colonial wars, the objective is no longer to conquer a territory but simply to eliminate from afar the “terrorist threat.”

Seen in this light, the intensive recourse to drones takes on new meaning. Richard Andres, an Air Force special advisor, reports that the tactical limitation of the old air weapons was that “they could not kill or suppress insurgents fast enough to overcome enemy recruiting.”<sup>34</sup> Reading between the lines, we should understand that an armada of hunter-killer drones at last does possess that capacity: it can win that race and eliminate individuals at least as fast as new ones are recruited. The strategic plan of air counterinsurgency is now clear: as soon as a head grows back, cut it off. And never mind if, in a spiraling development of attacks and reprisals that is hard to control, the perverse effect of that prophylactic measure is to attract new volunteers. From this point of view, the objection that drone strikes are counterproductive because they allow the enemy, in a classic pattern of action and repression, to recruit more volunteers no longer applies. Never mind if the enemy ranks thicken, since it will always be possible to neutralize the new recruits as fast as they emerge. The cull will be repeated periodically, in a pattern of infinite eradication. Once antiterrorism overtakes counterinsurgency, we are led to understand, the sufficient aim becomes a regular elimination of emerging threats, which takes the form of a periodic reaping: “Kill enough of them and the threat goes away. . . . However, the ‘kill list’ . . . never gets shorter, the names and faces are simply replaced.”<sup>35</sup> Caught up in an endless spiral, the eradication strategy is, paradoxically, destined never to eradicate. The very dynamics of its perverse effects prevent it from ever fully decapitating a hydra that regenerates itself ceaselessly as a result of the strategy’s own negativity.

The partisans of the drone as a privileged weapon of

“antiterrorism” promise a war without losses or defeats. What they fail to mention is that it will also be a war without victory. The scenario that looms before us is one of infinite violence, with no possible exit; the paradox of an untouchable power waging interminable wars toward perpetual war.



## Vulnerabilities

These imposters sold charms that made people invulnerable in warfare and fortunate in hunting and preserved them from all danger.

—Charles-Etienne Brasseur de Bourbourg

The great myths of invulnerability are almost all accounts of failure. The heroes are invulnerable, except at one point. Achilles' body is entirely "impenetrable by iron," with the exception of his heel. Siegfried, who was bathed in the entrails of a dragon, has a body covered "with skin as hard as scales, unaffected by the blows of an axe," except for his right shoulder, on which the leaf of a lime tree had alighted.<sup>1</sup> Hercules envelops the child Ajax in the pelt of a Nemean lion, and this makes Ajax's body invulnerable except in his armpits, which were not in contact with the wild beast's hide. In Persian mythology, Zoroaster pours enchanted water over the head of Isfendiyar, but the latter makes the mistake of closing his eyes, so Rustam will be able to fell him by shooting an arrow into his right eye. In the Nordic fables, Frigga, the mother of Baldur, makes all beings, both animate and inanimate, swear to spare her son. All swear the oath except for one puny plant, mistletoe, which she had omitted to invite to the meeting.

The message of these myths is that invulnerability is precisely that, a myth. There is always one unforeseen weak

point, one flaw. He has felled a dragon but will die from a fallen leaf. The lesson is not only that invulnerability can never be total, but also that any attempt to achieve invulnerability in turn engenders a corresponding vulnerability. It is by grasping Achilles' body in order to plunge it into the river that Thetis makes it invulnerable and at the same time produces its vulnerable point, which is the spot at which she grasped it. With regard to invulnerability and vulnerability, these two, far from excluding one another, each summon up the other.

This warning may also be read as a prescription: when faced with an enemy who is seemingly invulnerable or who wishes to be so, find the fault, seek out the Achilles' heel. Everything depends upon discovering in what way the seemingly invulnerable one is vulnerable. Combat presupposes an inquiry, and that inquiry concerns the body of the enemy.

In the Middle Ages, before gunpowder upset the socio-technical conditions for life and death in battle, it was said that the knights had managed "to render themselves almost invulnerable by thinking of joining together their pieces of armor so closely that neither spear nor sword nor dagger could penetrate easily to their bodies and making that armor so hard that no piece could be pierced."<sup>2</sup> Consequently, however, "part of the skill of combatants, both in battles and in single combat, lay in finding a fault in the armor."<sup>3</sup>

There is a time lag between what happens on the ground and when the drone operators see the image of that on their screen. The problem lies with the signal's latency. Space, which it was claimed could be suppressed by technical means, made a comeback in the form of an incomprehensible time lag. All that the operators have to aim at is the slightly obsolete image of an earlier situation. The *New York Times* reports that targets now make the most of this asynchrony:

when individuals think that they are being hunted by a drone, they adopt zigzag movements.<sup>4</sup>

A far cry from the all-powerful image that they wish to convey, drones are fragile weapons, riddled with faults and deep contradictions. They have multiple vulnerabilities. First are the technological ones. Their use presupposes mastery over the airspace in which they move. If this condition, automatically acquired in the context of asymmetrical warfare in which the enemy lacks effective antiair defenses, should disappear, most of the present-day drones would, as David Deptula himself admits, simply “start falling from the sky like rain.”<sup>5</sup>

Mastery over the airwaves is also necessary. In 2009, the press reported that Iraqi insurgents had managed to intercept the video feeds transmitted by Predator drones.<sup>6</sup> To accomplish this, all they needed was a satellite antenna and software that could be purchased on the Internet for \$26. Convinced of their own technological superiority, the American military had apparently not taken the elementary precaution of effectively encrypting their transmissions.

The Israeli army recently realized that as a result of similar negligence, Hezbollah had over the past ten years developed the capacity to intercept video feeds from Israeli drones, which enabled that organization to, among other things, pinpoint the position of the Israeli battalions on the ground, the better to ambush them.<sup>7</sup> Armed surveillance was, without the Israelis knowing it, lending its eyes to the enemy. One of the classic principles of guerrilla warfare is to supply oneself with weapons taken from the enemy camp. It is a rule that today is equally valid for the electromagnetic components of one's arsenal.

If the signals emitted by the drones have been so easily intercepted, it is not beyond the bounds of possibility that

the flows of data that control them could likewise be hacked. The air pirates of the future will use software to crack codes and take control from a distance. In 2011 *Wired* magazine revealed that malware had infected the Creech Air Force Base computers, including those handled by drone operators.<sup>8</sup> This involved a software spy of the keylogger variety, capable of recording keystrokes and transmitting them to a third party in such a way as to make it possible to recover passwords. That threat remained relatively benign, but it is obviously possible to envisage other scenarios. Just like any other connected computer system, the drone is vulnerable to intrusions. A computer army can be paralyzed by a viral attack more efficiently than by bombs.

The option of having totally robotized drones would certainly eliminate any problems involving humans in the command centers. However, it would have another security weakness: these machines would be dependent upon GPS data, which can easily be jammed or manipulated. In the course of a test organized by the American authorities in June 2012, a group of researchers from the University of Texas demonstrated how easily a drone could be brought down in this way. Thanks to an apparatus put together at the cost of a few thousand dollars' worth of material, "we fooled the UAV into thinking that it was rising straight up."<sup>9</sup> The drone's autopilot immediately compensated, sending the drone toward the ground. If no one had intervened, it would have crashed.

However, the faults are not solely technical. They are also politico-strategic. In 1999, two Chinese strategists suggested that the American preference for "zero dead" offered the United States' adversaries a rapid, easy, and low-cost means of thwarting the world's greatest power: "These common American soldiers who should be on the battlefield have now become the most costly security in war, like precious china bowls that people are afraid to break. All of the opponents

who have engaged in battle with the American military have probably mastered the secret of success—if you have no way of defeating this force, you should kill its rank and file soldiers.”<sup>10</sup> The dronization of the armed forces further radicalizes this strategic fault. If the military withdraws from the battlefield, enemy violence will turn against targets that are easier to reach. Even if the soldiers are beyond reach, civilians are not. As one American soldier explains, “We must understand that attempts to armorize our force against all potential enemy threats . . . shifts the ‘burden of risk’ from a casualty-averse military force onto the populace. In doing so, we have lifted the burden from our own shoulders and placed it squarely upon those who do not possess the material resources to bear it—the civilian populace.”<sup>11</sup> The paradox is that hyperprotection of military personnel tends to compromise the traditional social division of danger, in which soldiers are at risk and civilians are protected. By maximizing the protection of military lives and making the inviolability of its “safe zone” the mark of its power, a state that uses drones tends to divert reprisals toward its own population.<sup>12</sup>

This type of scenario is all the more probable given that the viability of the security model associated with the principle of “projecting power without projecting vulnerability” rests upon very fragile assumptions. It postulates that the establishment of an effective domestic “safe zone” is possible—that the danger, the threat, the enemy can be absolutely confined to the space outside.<sup>13</sup> This assumption runs up against the problem of the irreducible porosity of frontiers. There is no wall high enough, no barrier sufficiently impassable to guarantee the absolute isolation of a national “gated community.”

The military drone is a low-cost weapon—at least in comparison to classic fighter planes. That has long been one of the principal selling points for such a weapon. But of course

the contradiction lies in the fact that it is in the nature of such a weapon to proliferate.

What does Francis Fukuyama do after the end of history? In his leisure hours, he puts together little drones in his garage and then proudly exhibits them on his blog.<sup>14</sup> He is part of an rapidly developing subculture: that of the homemade drone. Following in the footsteps of the model enthusiasts of the 1960s, there today exists a whole little community of amateurs who buy or construct drones at the cost of a few hundred dollars. With their microcameras on board, these machines make it possible to produce unofficial little films, some of which are strikingly beautiful. I am thinking in particular of a flight over New York in which, once over the Brooklyn Bridge, the camera scans the facades of the skyline, ending up by gliding past the flame on the Statue of Liberty.<sup>15</sup> Proof enough of the validity of Walter Benjamin's thesis that technology, today used for death-dealing purposes, may eventually recover its emancipating potential and readopt the playful and aesthetic aspirations that secretly inspire it.

But even if the drone can and should be demilitarized, it is also perfectly possible to convert such homemade machines into daunting unconventional weapons at little cost. The Russian researcher Eugene Miasnikov sees in amateur drones a "suicide bomber on steroids": unlike a suicide bomber, an amateur drone "can easily penetrate security and threaten otherwise safe areas (e.g., the Green Zone) or reach crowded public places like sports stadiums."<sup>16</sup>

In November 2006, a confidential report produced by the U.S. military noted that a new technique was being used by the insurgents in Iraq. Suicide bombers were now equipped with a camera that transmitted images directly to their superiors. Thanks to this equipment, "a second member of a terrorist cell is able to observe the activities of the suicide

bomber via a miniature camera installed in the vest. The second member will ensure the bomber approaches the intended target and actually conducts the detonation. Should the bomber fail to detonate the device, the observer is able to detonate the device remotely.”<sup>17</sup>

A human drone is thus invented: a man, remotely controlled by others, who can be blown up at any moment, thanks to a long-distance detonating device. The irony is that commanders in the opposite camp might, thanks to the video cameras installed on the helmets of their own soldiers, be watching as some individual approaches and makes suspicious gestures. From the snow that simultaneously covers their respective screens, those on both sides will instantly know that their men have perished. Once this stage is reached, the next step in perfecting the art of assassination is to do without the man carrying the bomb: move on from a dronized partisan to, quite simply, a drone.