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# A THEORY OF THE DRONE

GRÉGOIRE CHAMAYOU



## Advance Praise for *A Theory of the Drone*

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“In Chamayou’s razor-sharp telling, drones fundamentally transform the psychic, moral, and physical space and art of killing. But it is his *theory* of the drone that is even more chilling. It demands that we consider the emergence of a new ethical and political norm of war that is neither war as we know it nor peace. The ‘principle of immunity for the imperial combatant’ rests on a twisted logic: On the one hand is the achieved capacity of the drone operative (one of many newly installed masters of ‘lethal surveillance’) to move throughout a day between killing fields and coffee breaks, between combat zones and home. On the other hand is the enlisting of a citizenry to accept the ‘moral obligation’ to kill. In this compelling analysis, Amnesty International’s classing of drone strikes as war crimes would be only part of the story. Chamayou’s critical point is that drones alter the very terrain and logic of who deserves to die and implicates us all.”

—Ann Stoler, Willy Brandt Distinguished University Professor of Anthropology and Historical Studies at the New School for Social Research

**Also by Grégoire Chamayou**

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*Manhunts: A Philosophical History*

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Grégoire Chamayou

Translated by Janet Lloyd



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# PRELUDE

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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.”

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, the 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 work

...

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 mole crabs. 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 the 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.” 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.” “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, and 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 weapons 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 mo



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 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 the 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 sure 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 we 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. The central problem arises: if the “war of drones” is no longer quite warfare, what kind of “state

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?

# Techniques and Tactics

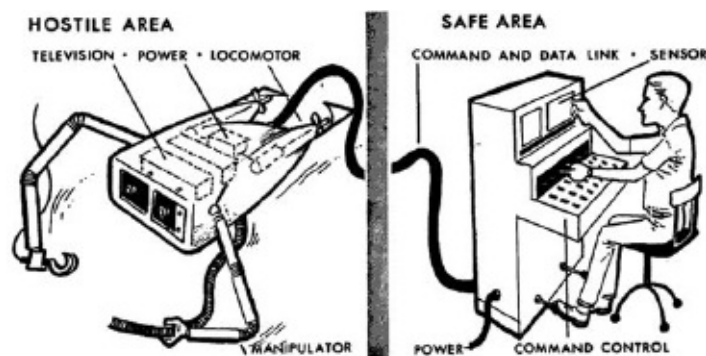
## Methodologies for a Hostile Environment

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 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 within which he is able to manipulate tools or equipment almost as though he were holding them in his own hands.”<sup>3</sup> The only thing lacking in this second body is the living flesh of the first body. But there lies the great advantage: the body that is vulnerable is removed from the hostile environment.



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).

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 potential 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 its most perilous occupations. Miners, firefighters, and those working on the atom, in space, or in the ocean depths 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 knobkerry will be recalled by nameless bloodless triumphs coming our way because we have telechiric yeomanry and they, poor fuzziwuzzies, 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. Classic 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>3</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 RPV [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 in 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 to 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 Atomic 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>



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