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FEATURE 16 August 2017

Anatomy of terror: What makes normal people become extremists?

It takes more than religious fanaticism or hatred to make someone take innocent lives, but recognise the true roots of ISIS-inspired terror and they can be addressed

Who and what are we fighting?
Reuters

By **Peter Byrne**

VERA MIRONOVA rides Humvee shotgun through Mosul's shattered cityscape. It is late January 2017. Iraqi prime minister Haider al-Abadi has just declared east Mosul liberated from three years of rule by Islamic State, or ISIS. Most jihadist fighters are dead or captured, or have crossed the Tigris to the west, digging in for a final stand. Left behind, biding their time, are snipers and suicide bombers.

Much of the population has fled to refugee camps on the outskirts. Those who stayed look

lost and dazed. Men pull corpses out of houses destroyed by air strikes. Others cobble together street-corner markets, selling meat and vegetables imported from Erbil, 80 kilometres and another world away.

Few women are visible. Mironova stands out, dressed in combat trousers and a Harvard sweatshirt, wisps of blonde hair escaping her blue stocking hat. Despite travelling in an armoured car, she's clearly not a combatant. She's a social scientist, and her job is not to fight, but to listen, learn and record.

We stop for breakfast at My Fair Lady, a ramshackle restaurant that was a favoured eatery of ISIS fighters. The Iraqi special forces soldiers accompanying us say it has the best pacha in town – steaming bowls of sheep brains and intestines stuffed with rice, with slices of black, fatty tongue and boiled oranges. Mironova orders a pizza.

A week later, a suicide bomber detonates himself at the entrance to the packed restaurant, killing the owner and several customers.

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"The United States does not have a real counter-terrorism strategy," says Martha Crenshaw. Faced with continued waves of jihadist terror attacks, in the conflict zones of Syria and Iraq but also closer to home, the West seems at a loss to know what to do. Crenshaw is something like the doyenne of terrorism studies, with a half-century career studying the roots of terror behind her. She occupies an office at Stanford University just down the hall from Condoleezza Rice, the former US national security advisor who was an architect of the "global war on terror" declared after the attacks of 11 September 2001. "There is a vast amount of money being thrown into the counter-terrorism system and nobody is in charge," Crenshaw says. "We do not even know what success might look like. We are playing a dangerous game of whack-a-mole: terrorists pop up. We try to beat them down, hoping they will give up."

In July, al-Abadi was back in Mosul, this time to declare the final liberation of Iraq's second city. Near-saturation bombardment of the centre by the US Air Force and a casualty-heavy, house-by-house offensive led by Iraqi forces had eliminated most of the fighters holding the city where the leader of ISIS, Abū Bakr al-Baghdadi, had proclaimed its caliphate in 2014. The liberation came at a huge price. Mosul lies in ruins, and tens of thousands of civilians are dead or wounded. Almost one million residents have been displaced from their homes.

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The price has been paid not just in Mosul. In June, 206 civilians were killed in bombings and other attacks carried out or inspired by ISIS in Iraq, Afghanistan, Syria, Egypt, Iran, Australia, Pakistan and the UK, where radicalised ISIS supporters murdered eight in an attack near London Bridge on 3 June. A couple of weeks earlier, on 22 May, a 22-year-old British Muslim named Salman Ramadan Abedi detonated an improvised bomb laden with nuts and bolts at the entrance to the Manchester Arena, killing himself and 22 others, many of them children.

Why? Religious fanaticism? Groundless hate? Perverted ideology? Victory in the war on terror requires us to know what and who exactly we are fighting.

II

After breakfast, we accompany Iraqi commandos into abandoned houses that had been used by ISIS, wary of booby traps. We stare into darkened, steel-barred rooms used as jails for sex slaves and "kafirs", Muslims who fell afoul of ISIS. We inspect the labels on tin cans, torn cookie packaging and empty bottles of Scotch whisky.

The soldiers scoop up photographs, checkpoint passes and slips of paper with names and phone numbers. Mironova bags religious tracts written in Arabic and Russian. Many of ISIS's foreign fighters in Iraq and Syria are Chechnyans and Tajiks. Someone hands Mironova a diary written in Russian. She reads out loud, translating a letter written by a woman to her jihadist lover.

"We are made only for each other, our marriage is sealed in heaven, we are together in this life and the afterlife, God willing. When you left, I counted the days until I got you back, my beloved. Now you are going to the war again; you may be gone forever. I will count the days until we meet again, my beloved Zachary." Following the letter, the woman had penned a recipe for a honey cake that requires a creamy milk not obtainable in Iraq. Jihadists dream of comfort food, too.

III

During the 1980s, Marc Sageman worked as a case officer for the CIA, operating armed cells resisting the Soviet occupation of Afghanistan. Now a forensic psychiatrist specialising in criminality and terrorism, he has been investigating what makes a terrorist for decades.

In his 2004 book *Understanding Terror Networks*, Sageman examined the motivations of 172 jihadist terrorists as revealed primarily in court documents. His conclusions fitted with decades of jail interviews and psychological studies showing that terrorism is neither solely reducible to ideological or religious motivations, nor to personality disorders. "Terrorism is not a personality trait," says Sageman. "There is no such thing as a 'terrorist', independent of a person who commits an act of terror."

That presents a problem for efforts to profile, identify and interdict individuals at risk of turning to terrorism, a central plank of anti-radicalisation programmes such as the UK's "Prevent" strategy (see "Nip it in the bud"). Democratic societies cannot keep an eye on everyone, and what they are looking for may not even give any obvious sign of its existence.

The big idea: Can university subjects reveal terrorists in the making?

Crenshaw's influential paper "The causes of terrorism", published in 1981, summed up decades of observations of terrorists and their organisations, ranging from 19th century Russian anarchists to Irish, Israeli, Basque and Algerian nationalists. The outstanding common characteristic of individual terrorists, she concluded, is their normality. In her 1963 book *Eichmann in Jerusalem*, political theorist Hannah Arendt noted the same thing about the "banal" Nazi concentration camp bureaucrat Adolf Eichmann.

People who commit terrorist acts are usually embedded in a network of familial and friendship ties with allegiance to a closed group, be that tribal, cultural, national, religious or political. Historically, the conditions for the murder of innocents by terrorism or

genocide have occurred when one group fears extinction by another group. Ordinary people are motivated to "kill people by category" through their own group identity.

Viewed from inside the group, that can seem rational: terrorists are brave altruists protecting the group from harm by powerful outsiders. Terrorist acts are warnings to the out-group, demanding that certain actions be taken, such as withdrawing a military occupation or ending human and civil rights abuses. Terrorism is a militarised public relations ploy to advance a grander scheme – a political tactic, not a profession or an overarching ideology.

Comment: You can't fight violence with violence

But the vast majority of people who might share the same sense of grievance or political goals are not motivated to kill and maim the innocent. Criminologist Andrew Silke at the University of East London has conducted many interviews with imprisoned jihadists in the UK. "When I ask them why they got involved, the initial answer is ideology," he says. "But if I talk to them about how they got involved, I find out about family fractures, what was happening at school and in their personal lives, employment discrimination, yearnings for revenge for the death toll of Muslims."

Yet this is not a popular view with counter-terrorism agencies, he says. "The government does not like to hear that someone became a jihadist because his brothers were beaten up by police or air strikes blew up a bunch of civilians in Mosul. The dominant idea is that if we concentrate on, somehow, defeating the radical Islamicist ideology, we can leave all of the messy, complicated behavioural stuff alone."

IIII

Mironova trained as a mathematician, game theorist and behavioural economist. A fellow at the Harvard Kennedy School, she is one of few researchers to venture directly into combat zones to examine the roots of jihadist terror. Her work has been funded variously by the US National Consortium for the Study of Terrorism and Responses to Terrorism (START), George Soros's Open Society Foundations, the United Nations and the World Bank.

During extended stays in Syria, Iraq and Yemen over the past five years, Mironova has built up trust networks in a politically diverse spectrum of insurgents, including "radical" and "moderate" jihadists and ISIS members and defectors. She moves easily through the clogged frontline check points surrounding Mosul with the permission of the Iraqi military. She stays close to her protectors, careful not to cross the ethical line of "doing no harm" that separates academic research from intelligence gathering.

"We are playing a dangerous game of whack-a-mole with the terrorists"

By seeing things through the eyes of the fighters, Mironova aims to model what drives them, and how their individual motivations affect group behaviours and vice versa. She reads Arabic, but employs local translators in the field. She interviews fighters and civilians in hospitals, refugee camps and on the front lines face to face and via telephone or Skype.

Iraq as a whole is mainly Shia, but Mosul is largely Sunni; ISIS practices an apocalyptic form of the Sunni faith in a region wracked by social and economic catastrophe. Many civilians in the areas under their control collaborate, willingly and unwillingly, with ISIS. Some share their houses with fighters. Some work in ISIS factories, building homemade rockets, cutting and welding steel for jail bars and armour plates for tanks. Some escape into refugee camps. Some marry fighters. Some join sleeper cells.

In "The causes of terrorism", Crenshaw observed that it is often the children of social elites who first turn to terrorism, hoping to inspire the less-privileged masses to approve a radical change in the social order. Many Jihadist organisations are led by upper middle class intellectuals, often engineers. Al Qaeda's leader Ayman al-Zawahiri is a medical doctor; Abū Bakr al-Baghdadi reportedly has a doctorate in Islamic studies.

But the work of Mironova and others shows that the local ISIS rank and file is more down-to-earth: disenfranchised people struggling to eke out a living for their families in war zones. Foreign fighters tend to be more ideologically driven, and most motivated by factors beyond group identity to make the ultimate sacrifice (see "Devoted to the cause").

Some militants seek to avenge the deaths of friends and relatives from US drone attacks, Shia militias, Iraqi police or US and British special operations forces. But as the sex slaves and Scotch suggest, jihadist fighters do not focus exclusively on heavenly rewards, or even hatred or revenge. Not everyone wants to die. Jihadist brigades in Iraq seize oil and vehicles, which they transport to high demand markets in Syria seeking to maximise profits. They often distribute gains from their looting and business operations communally.

Many of their adherents are purely economic actors, recruited with offers of competitive salaries, health insurance and benefits paid to their families should they be killed in battle. Mironova surveyed a cohort of Iraqi women who had encouraged their husbands and sons to join ISIS in order to get better family living quarters. Some recruits just need a job.

In Iraq and Syria, there are more than 1000 radical Islamist, moderate Islamist, and non-sectarian brigades seeking to recruit militants to their brand of insurgency. In Mironova's models, their behaviour is determined by resource constraints, much as capitalist enterprises thrive and die. Groups compete to attract the best fighters. Those with low budgets may choose a radical religious line to attract foreign fanatics who are not as professional as fighters motivated by money, but will work for just room and board. Such models suggest that although the roots of violent jihadism might be expressed as religious fervour, they are anchored in more mundane, utilitarian – and perhaps solvable – causes.

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"When the politicians demonise ISIS as evil, hormones flood the brain with danger signals," says Hriar Cabayan. "We forget how to think scientifically. We need to get inside the heads of ISIS fighters and look at ourselves as they look at us."

Cabayan runs the Pentagon's Strategic Multilayer Assessment (SMA) programme. His counter-terrorism unit taps the expertise of a volunteer pool of 300 scientists from academia, industry, intelligence agencies and military universities. They convene virtually and physically to answer classified and unclassified questions from combatants, including special operations forces fighting ISIS in Syria and Iraq. The result is a steady stream of white papers largely concluding that the US counter-terrorism strategy – decapitating insurgency leadership, bombing terrorist strongholds – is counter-productive.

Reliable information on terrorist attacks and the effectiveness of counter-terrorist actions is hard to find. START's Global Terrorism Database, based at the University of Maryland, records details of terrorist incidents as reported by English-language media. It does not record counter-terrorist actions. Crunching event-based data from START's media sources can reveal statistical patterns in terrorist attacks, including how frequently certain groups attack, numbers of fatalities and types of targets and weapons involved. The Mapping

Militant Organizations database, hosted at Stanford University, includes data relevant to the political environments that nurture terrorism, but also relies on English-only news reports and selected academic journals.

Neither database includes acts of terror committed by states, except for Islamic State. The definitional boundaries between insurgency and terrorism and state repression are vague. Militant actions directed against soldiers can be recorded as terrorism, while lethal police actions or government-initiated attacks on civilians are regarded as acts of war, or collateral damage, and so ignored.

Read more: Is evil a disease? ISIS and the neuroscience of brutality

Classified data is no more comprehensive: about 80 per cent of top-secret intelligence is drawn from open sources, including media reports. Raw data that contradicts policy or that tarnishes the military is often under-reported or ignored by field officers who are more concerned with living to fight another day. There is censorship, too: a recent investigation by *Military Times* reports that since 9/11, the Pentagon has failed to publicly report about a third of its air strikes in Iraq, Syria and Afghanistan, omitting an estimated 6000 strikes since 2014.

Relying on such imperfect sources can obscure the real motivations and root causes behind events. "The problem is that the press usually has a completely wrong narrative about the perpetrators that is only corrected in the evidence presented at the trials," says Sageman. National Security Agency files leaked by Edward Snowden reveal that the NSA has trouble hiring Arabic and Pashtu speaking intelligence analysts who understand the cultures they monitor. Military intelligence agencies focus more on locating and killing terrorist suspects than on understanding sociological motivations.

Cabayan praises Mironova's "brave" style of research, and the data from the ground that it brings. At the SMA meeting in March this year, the question was whether the physical defeat of ISIS in Mosul would eliminate the threat. Sixty scientists, including Mironova, examined the problem from a variety of perspectives. Their unequivocal answer was no. Events so far bear out that prediction.

There is no easy solution to the problem of terrorism, says Cabayan, because neither terrorists nor counter-terrorists are entirely rational operators. "The words 'rational' and 'irrational' make no sense," he says. "People behave emotionally, illogically. Human societies are complex, adaptive systems with unpredictable, emergent properties."

Many strands of evidence now suggest that terrorist and counter-terrorist systems are a single system governed by feedback loops; the actions and tactics of one side continually evolve in response to the actions of the other, as in a wrestling match. From this perspective, ISIS's trajectory can be calculated only retrospectively, in response to events.

It is an agile trajectory. Statistical models built around what is known of the frequency and casualty counts of insurgent and terrorist incidents in Syria and Iraq show the jihadists as Davids and conventional armies as lumbering Goliaths. The extremist groups can fragment and coalesce with relative ease: they are "anti-fragile", strengthening under attack. They are not wedded to charismatic leaders, but are self-organising networks that can operate

independently of a single node of control, and have a ready source of new personnel.

The complex, evolving nature of the groups suggests that the US strategy of increasing troop numbers in Iraq, Syria and Afghanistan won't protect against jihadism. That conclusion is borne out by studies of the effects of troop "surges" in Iraq in 2007 and Afghanistan in 2012, both of which appear to have increased terrorism. "Real complex systems do not resemble static structures to be collapsed; they are... flexible, constantly respun spider webs," in the words of a 2013 SMA study of insurgency.

Drone strikes aimed at decapitating terrorist cells are likely to fail too. A 2017 study by Jennifer Varriale Carson at the University of Central Missouri concluded that killing high-profile jihadists is "counter-productive, if its main intention is a decrease in terrorism perpetrated by the global jihadist movement". In July 2016, *The Georgetown Public Policy Review* reported a "statistically significant rise in the number of terrorist attacks [in Pakistan] occurring after the US drone program begins targeting a given province".

"Human societies are complex, unpredictable, adaptive systems"

The drone strikes follow laws of unintended consequences, says Craig Whiteside of the Naval Postgraduate School in Monterey, California. "Killing a charismatic leader may inspire a potent posthumous charismatic appeal, or cause splintering that results in otherwise suppressed extreme factions rising in prominence."

The effects are felt in Manchester as well as Mosul. In her most recent book, *Countering Terrorism*, Crenshaw writes, "Western military engagement has reinforced the jihadist narrative that Muslims everywhere are targeted. It may have made ISIS more determined to inspire rather than direct terrorism. Nor has military action blocked jihadist organisations [in Iraq and Afghanistan] from regrouping, regenerating, and expanding."

The evolving nature of the message means it is difficult to combat by broadcasting counter-narratives. Social networks ensure the message feeds back rapidly to disenfranchised sympathisers in the West (see "Network effects"). Data scientists from the Naval Postgraduate School have studied Twitter feeds from ISIS strongholds before and after the US began bombing them in late 2014. Before the bombing campaign, the tweets focused ire on near enemies: local mayors, imams, police and soldiers. As the bombs dropped, the tweets went international, calling for the destruction of Western governments and civilians.

During the next three years, ISIS fighters or ISIS-inspired lone wolves targeted innocents in Brussels, Paris, Orlando, San Bernardino, Nice, Manchester and London. Atmospheric changes in social media reflect changes in the ground-level politics of insurgency, and specifically a willingness to export terrorism abroad. In the words of the sister of Abedi, the Manchester attacker, he "saw the explosives America drops on [Muslim] children in Syria, and he wanted revenge".

Terrorist groups are seldom defeated by military force; they either achieve political solutions, or they wither away because grievances are solved or dissipate, or they alienate their supporters through excess brutality. Conversely, the US-led bombings of civilians in Fallujah and Mosul in Iraq and Raqqa in Syria, and the atrocities now being committed by the Iraqi liberators against ISIS suspects and their families, risk creating a new round of Sunni grievances.

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According to a Pentagon-funded meta study of public opinion polls taken during 2015 and 2016, the "vast majority" of Muslims in Iraq and Syria do not support ISIS. But those who do cite religion or ideology far less than social, economic and governance grievances. And in Mosul, the study said, 46 per cent of the population believed coalition air strikes were the biggest threat to the security of their families, while 38 per cent said ISIS was the greatest threat.

If Iraq's economic and social infrastructure continues to deteriorate, a global war on terror that has to date cost $4 trillion will continue – and more civilian lives will be lost to jihadist attacks in the countries involved and the West. "The Sunnis in Iraq have a genuine grudge," says Cabayan. "They were left out of the Shia-dominated government that we set up; they are under attack, nobody is protecting them. We can and should provide off-ramps for defeated ISIS members – safety, jobs, civil rights. If not, after the fall of Mosul, we will be facing ISIS 2.0."

The counter-productive strategies go both ways. The immediate effect of civilian casualties in terror attacks is generally to undermine the ability of the attacked population to perceive the grievances of the attacking group as genuine, and to strengthen the political desire to hit back militarily. Retired US Navy captain Wayne Porter was naval chief of intelligence for the Middle East from 2008 to 2011. He is convinced that the "only solution" to terrorism is to deal with its root causes.

"The only existential threat to us from terrorist attacks, real or imagined, is that we stay on the current counter-productive, anarchically organised, money-driven trajectory," says Porter, who now teaches counter-terrorism classes to military officers at the Naval Postgraduate School. "Our current counter-terrorism strategy, which is no strategy, will destroy our democratic values."

When ISIS is driven from west Mosul in July, Mironova is back on the battlefield, gathering more data about the fate of families accused of collaborating. Extrajudicial punishment of Sunnis by Shia and Kurdish forces is causing fear and resentment, and fuelling ISIS, which is far from defeated.

"ISIS is like H_2O. It can be in several states: ice, water and vapour," she says. "In Mosul, it was ice. We melted it. Now it is water, flowing into the countryside, seizing towns. It can vaporise to live and fight another day."

Devoted to the cause

Jihadists fuse their individual identity with that of the group
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What makes someone prepared to die for an idea? This is a question that concerns anthropologist Scott Atran of the University of Oxford's Centre for Resolution of Intractable Conflicts. Research he has led in some of the most embattled regions of the world, including in Mosul, suggests the answer comes in two parts. Jihadists fuse their individual identity with that of the group, and they adhere to "sacred values".

Sacred values are values that cannot be abandoned or exchanged for material gain. They tend to be associated with strong emotions and are often religious in nature, but beliefs held by fervent nationalists and secularists, for example, may earn the label too. Atran has found that people in fighting groups who hold sacred values are perceived by other members of their group as having a spiritual strength that counts for more than their physical strength. What's more, sacred values trump the other main characteristic of extremists: a powerful group identity. "When push comes to shove, these fighters will desert their closest buddies for their ideals," he says.

Atran argues that individuals in this state of mind are best understood, not as rational actors but as "devoted" actors. "Once they're locked in as a devoted actor, none of the classic interventions seem to work," he says. But there might be openings. While a sacred value cannot be abandoned, it can be reinterpreted. Atran cites the case of an imam he interviewed who had worked for ISIS as a recruiter, but had left because he disagreed with their definition of jihad. For him, but not for them, jihadism could accommodate persuasion by non-violent means.

As long as such alternative interpretations are seen as coming from inside the group, Atran says, they can be persuasive within it. He is now advising the US, UK and French governments on the dynamics of jihadist networks to help them tackle terrorism.

Nip it in the bud

Deradicalisation programmes are the bedrock of counter-terrorism strategies in many countries. They aim to combat extremism by identifying individuals who have become radicalised, or are in danger of becoming so, and reintegrating them to the mainstream using psychological and religious counselling as well as vocational training.

In the UK, some 4000 people are reported to the government's anti-terror programme Prevent every year. The majority – 70 per cent – are suspected Islamic extremists, but about a quarter are far-right radicals, and that number is growing.

Critics fear that these programmes criminalise and stigmatise communities, families and individuals. In addition, there are questions about who governments collaborate with for information and whether public servants should be obliged to report potential radicals.

There is also very little evidence that the programmes work. Most fail to assess the progress of participants, and rates of recidivism are rarely studied. In a recent report, the UK parliament's human rights committee warned that the government's counter-extremism strategy is based on unproven theories and risks making the situation worse.

The key to combating extremism lies in addressing its social roots, and intervening early, before anyone becomes a "devoted actor" willing to lay down their lives for a cause, says Scott Atran at the University of Oxford's Centre for Resolution of Intractable Conflicts (see "Devoted to the cause"). "Until then, there are all sorts of things you can do." One of the most effective counter measures, he says, is community engagement. High-school football and the scouts movement have been effective responses to antisocial behaviour among the disenfranchised children of US immigrants, for example.

Another promising avenue is to break down stereotypes, says social psychologist Susan Fiske at Princeton University. These are not necessarily religious or racial stereotypes, but generalised stereotypes we all hold about people around us. When we categorise one another, we are particularly concerned with social status and competition, viewing people of low status as incompetent, and competitors as untrustworthy. Throughout history, violent acts and genocides have tended to be perpetrated against high-status individuals with whom we compete for resources, and who therefore elicit our envy, says Fiske.

Fiske's group has found ways to disrupt stereotypes by making people work together to achieve a common goal, for example. Trivial contact involving "food, festivals and flags" won't cut it, she says. It has to be a goal people care about and are prepared to invest in, such as a work project or community build. Here, success depends on understanding the minds of your collaborators – "rehumanising" them.

Changing perspectives Tania Singer of the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig, Germany, thinks brain training could achieve similar effects. Social neuroscientists have identified two pathways in the brain by which we relate to others. One mobilises empathy and compassion, allowing us to share another person's emotions. The second activates theory of mind, enabling us to see a situation from the other's perspective.

Singer's group recently completed a project called ReSource, in which 300 volunteers

Network effects

A key feature of jihadist groups is their use of social networks to propagate their ideas. "If you can disrupt those connections, that's probably your best shot at stopping people from becoming terrorists," says J. M. Berger at the International Centre for Counter-Terrorism in The Hague and co-author of *ISIS: The state of terror*.

He believes that the advent of social media has not only increased the number of people extremist groups can reach, but also the potency of their message, because it allows them to circumvent safeguards against revisionism and hate speech. Those most susceptible to the propaganda, his research suggests, are not the chronically poor or deprived, but people experiencing uncertainty in their lives – recent converts, young people who have just left the family home, those with psychiatric problems.

Extremist groups are adept at fomenting collective uncertainty, for example by provoking hostility between ethnic groups. At the same time, they present themselves as upholders of clear and unwavering values, an attractive message to individuals who are undergoing potentially destabilising transformations. Through social networks, those experiencing uncertainty can learn about and even enter into contact with extremist networks.

The G7 recognised this with its recent statement that it will "combat the misuse of the internet by terrorists". But this is easier said than done, says Berger. "It's easy to demand social media companies do something about extremism, but much harder to define what they should do in a way that is consistent with the values of liberal democracies." **Laura Spinney**

This article appeared in print under the headline "Roots of terror"

Leader: "To tackle extremism, we need to know the enemy"

Peter Byrne is a journalist based in northern California. His book, *The Science of ISIS*, will be published next year