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War Looms Around Indian-held Jammu & Kashmir, With Broad Regional Implications
Special Report: Defense and Strategic Planning Challenges in an Entirely New Age
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War Looms Around Indian-held Jammu & Kashmir, With Broad Regional Implications

Analysis. From GIS/Defense & Foreign Affairs in New Delhi, Islamabad, and Srinagar. The newly-re-elected *Bharatiya Janata Party* (BJP) Government of Indian Prime Minister Narendra Modi was, by early August 2019, preparing to seek armed redress for India's series of recent humiliations in Indian-held Kashmir and across the border in Pakistani-held Azad Kashmir. It could, because of the prospect of international isolation and a broader war with Pakistan, be the most significant strategic gamble for India, potentially jeopardizing its standing as a global power.

With an overwhelming win in the elections — which on May 30, 2019, saw the new BJP Government with 282 of the 428 seats in the *Lok Sabha* — Prime Minister Modi felt he had a mandate to act.

It was essentially to be a proxy war with Pakistan to resolve a significant aspect of the Kashmir dispute which had been underway since the partition of the subcontinent in 1947. Kashmir also has a border with the People's Republic of China.

What have been described as “massive” Indian troop concentrations were, by August 4, 2019, preparing to move into the Indian territory of Jammu & Kashmir. Senior sources in the region on August 3, 2019, told GIS/*Defense & Foreign Affairs* that a base force of 700,000 troops in the region had been further bolstered by another 28,000 reservists called up in the preceding week.

There were also indications of a Pakistan Army build-up on the Pakistani-held side of the Line of Control (LoC) which divides Indian-held Jammu & Kashmir from Pakistani-held Kashmir.

All Hindu temples in the region were told to stop services for the time being because of possible terrorist activities, and all foreign tourists were warned to leave Kashmir. The same sources said that it was the Indian Government's intention to declare a new state which it would call Jammu as “a separate state” within the Indian Union, and to allocate the rest of Kashmir to the “Governor of New Delhi”, presumably meaning the Union (Federal) Government of India. In other words, bring that area under direct control of the central Government.

Thus, the Modi Government seemed by early August 2019 to be preparing to unilaterally abrogate Article 370 of the Indian Constitution. Article 370 was inserted as a “temporary provision” which granted special autonomous status to Jammu and Kashmir. Under 370, All the provisions of the Constitution which are applicable to other states are not applicable to J&K. Little wonder that the Union Government felt that unrest was imminent: leaders from the Kashmir Valley had long indicated that abolishing these special provisions would plunge the state into chaos.

Prime Minister Modi, in his election platform for the 2019 polls, had vowed to amend the Constitution to revoke the special rights accorded to the Kashmiris.

Immediately before the Indian elections, the Government’s prestige had suffered further. It became clear that the tide of public opinion against New Delhi in Indian-held J&K had reached a pivotal point. Even a number of senior Indian politicians, from the Congress Party, had indicated that “Kashmir is already lost”.

India’s declining control over the portion of J&K under its governance had, by early 2019, begun to be of serious concern to the Government in New Delhi. A suicide bombing of a convoy of the Indian Central Reserve Police Force on the Jammu Srinagar National Highway at Lethpora, in the Pulwama District, on February 14, 2019, caused 41 deaths including the attacker, a member of the *Jaish-e-Mohammed* militant group. And although the Pakistan Government denied any connection with the attack — which it condemned — the Indian Government began planning its own attack on a suspected *Jaish-e-Mohammed* camp in Pakistan.

At 03.00hrs local on February 26, 2019, the Indian Air Force launched an air strike against an alleged JeM site at Balakot, in Pakistan’s Khyber Pakhtunkhwa province (ie: outside the Pakistan-controlled area of Kashmir). The President of India’s ruling BJP, Amit Shah, said that more than 250 terrorists were killed in the air strike, a claim later demonstrated by photographic evidence to have been vastly over-stated (indeed, it seems possible that there may not have been any loss of life at all).

But the incident prompted the most significant confrontation between India and Pakistan for many years. Indian reports indicated that 12 Indian *Mirage 2000* fighters had conducted the raid on Balakot, which is some 40km from the Line of Control. Reuters news agency reporters visiting the area said that no militant camps existed in the area, but that damage to the town was minimal, with some four or five bomb strikes using precision-guided SPICE-2000 ordnance probably launched from inside Indian-controlled Jammu & Kashmir, mostly damaging forest areas, injuring one person. [One Italian journalist, Francesca Marino, however, claimed that 35 people had died in the strike, and 35 to 40 injured.] JeM did, however, maintain a *madarasa* in Balakot (which was not hit).

The next day, an IAF force pushed over the Line of Control into Pakistani-administered Azad Kashmir, and encountered a defending force of Pakistan Air Force fighters. At least one IAF fighter, a MiG-21 *Bison* (a significantly more capable upgrade of the basic MiG-21) was shot down, and the pilot ejected into Pakistani territory. He was subsequently returned to India. The IAF claimed that the PAF force included a US-supplied F-16 Block 52 fighter which had used an AIM-120C-5 AMRAAM to down the *Bison*. The

IAF claimed to have destroyed an F-16 in the engagement, but no confirmation of that was produced.

What was significant was the reality for both Pakistan and India that there had been a growing surge in Islamist fighters entering the region, largely as a result of the continued loss of territory and capability by Dī'SH (*asad-Dawlah al-Islāmīyah fī al-'Irāq wash-Shām*: Islamic State) in Syria and Iraq. This had also caused a surge in foreign fighters entering neighboring Afghanistan, but for India it compounded the growing difficulty in retaining control of Jammu & Kashmir. Control of the Kashmiri headwaters of the Indus River was the most effective strategic advantage which India could retain over Pakistan, making it equally imperative for Pakistan to ensure that it could itself — through Azad Kashmir — retain some measure of water security for the Indus, quite apart from the fact that Azad Kashmir provided the landbridge between Pakistan and the People's Republic of China (PRC).

By mid-March 2019, Pakistan continued to reinforce ground and air units along the Indian border, particularly near the Line of Control, but the Pakistan Government of Prime Minister Imran Khan, having taken the step unilaterally to return the captured Indian pilot, had also used international conduits such as US National Security Advisor John Bolton, to assure India that there would be no intemperate response to the Indian attack.

Prime Minister Khan met in Washington, DC, on July 22, 2019, with US Pres. Donald Trump, in an attempt to remedy the decline in bilateral US-Pakistani relations, and at that meeting Mr Trump offered to help mediate the Indo-Pakistan conflict in Kashmir. Pres. Trump said that he had also been asked by Indian Prime Minister Modi to “mediate or arbitrate” the dispute. And Pres. Trump agreed.

Meanwhile, over the weekend of August 3-4, 2019, cross LoC artillery fire between Indian and Pakistan forces escalated. The Pakistan Army accused the Indian Armed Forces of using cluster munitions against targets in Azad Kashmir in the previous week, in defiance of Geneva Convention rules. India denied the allegation.

At the very least, the Indian Army-led operation into J&K would drive a major refugee flow of Muslims across the LoC into Azad Kashmir and Pakistan proper. The question is whether the operation to dramatically further divide the historical state of Kashmir would lead, in fact, to the prospect of a major conflict between India and Pakistan. Kashmir, the principal region of the headwaters of the Indus River — the spinal cord of Pakistan — is critical to the viability of Pakistan because it controls the country's water supply. And despite the 1960 Indus Waters Treaty governing water distribution between India and Pakistan, based on the rivers traversing India before emptying into the Indus, there is very real concern that India has, at the very least, interpreted the Treaty very much in its favor.

The current Indian build-up is meant to be the start of a campaign to substantially resolve the “Kashmir problem” — the actual loss of control which India has over its J&K territory — and begin Prime Minister Modi's desire to actually bring to a conclusion the “Kashmir dispute”, the mostly cold war with Pakistan over the control of the critical areas of Kashmir deemed vital to the survival of the Pakistani state.

India had progressively lost control of even the portion of J&K it administered because the overwhelmingly Muslim population had never, since 1947, accepted incorporation into India, despite the fact that the Maharaja at the time, Hari Singh, a Hindu, signed the deed of accession to India on October 26, 1947.

What seems clear at this point is that Prime Minister Modi is relatively less concerned about the possible reaction or intervention of the US and the People's Republic of China in the process, even though it seems clear that the PRC would reinforce any Pakistani control and retention of Azad Kashmir, which provides the landbridge between the PRC itself and the Indian Ocean.

Special Report

Defense and Strategic Planning Challenges in an Entirely New Age

Trends in geopolitical, economic, and technological developments increasingly need to be viewed within a global context. The age of stovepiping, which worked during much of the Cold War, cannot be expected to work now, or through the coming decades. Everything is connected.

Analysis. By Gregory R. Copley, Editor , GIS/Defense & Foreign Affairs. Defense and strategic policy planning officials around the world are beginning to comprehend that the types of threats and opportunities likely to arise in the coming few decades have little in common with the threats, opportunities, and contextual priorities which evolved during the 20th Century.

That is not to say that there are no lessons to be learned from the past, that strategic principles have changed, or that there is no continuity whatsoever between the recent past and our immediate future. But some things have already profoundly changed, or will soon change, and, as a result, it is necessary to see where the balance of thinking and budgets should go in addressing future threats and context as opposed to funding evolving legacy technologies, doctrines, and alliance structures.

Because of substantially changed global circumstances (with more to come), it is increasingly clear that the tendency of experienced military and policy officials to “fight yesterday’s wars” is more dangerous than usual. On the other hand, the inexperience which youth — especially today’s younger generation — brings to the situation tends to ignore historical lessons substantially, while expecting the security of funding and the availability of resources to be inviolate.

So, it is true: the future is not what it used to be. After at least a century and a half of being able to extrapolate our current trends into expectations of the near future, we can no longer do so.

So what *is* changing in our global strategic context to make us reconsider whether thinking needs, commensurately, to be changed in geopolitics (transforming the balance of power, and therefore considerations on basing, power projection, etc.), economics, military doctrine, and technology?

1. Changed context: For much of the recent era, from, say, around 1800 until 2000, the strategic context was driven by the direct physical realities of geography, resources, and kinetic power. By the year 2000, or maybe slightly before, the strategic contextual tipped and began to be dominated more by the indirect, intangible power of electricity.

Yes, the fundamentals remained: food, water, and geography were necessary elements of actual survival. But now, for advanced societies to prosper and have power, their wealth and fighting ability became overwhelmingly dependent upon their ability to produce, protect, and project their use of electricity. This applies now to kinetic competition as well as to wealth creation.

Again, the principle driving purpose (or goal) of power projection did not change, which is the need to impose the will of one's own society on another society and/or its leadership. The contextual difference which emerged, and which became of overriding importance, is that the most important way to impose will is now through the electronic spectrum rather than through marching feet and high explosives.

So areas of greatest threat potential and areas *under* greatest threat have often become the same: areas of greatest access to electricity.

If nothing else, the end of the Cold War in 1990 meant a changed global balance of power, and the inevitable realization that the brief appearance of a seemingly unipolar world was unsustainable. Either competition will arise from a new quarter, or the power of the single superpower would atrophy and wane. Or both. Which is what happened.

The world moved from bipolar-plus (Cold War) to unipolar (post-Cold War), to multipolar, and is moving rapidly back to a revived bipolar-plus situation, but one vastly different from the 1945-1990 Cold War. The bipolar context is no longer between competing *ideologies* in which one had a near-monopoly on capital formation and global logistics, and one which felt that capital was not the essential ingredient. Today's bipolar model involves two powers with significant capital and technological capabilities, with neither able to significantly build alliance bases around ideological or ethical values.

But at a more fundamental level, we are also looking at a world with a dramatically changed population basis. Global population levels are peaking and, in many areas, declining in civilizations which were built on, and *required*, constantly expanding markets.

The reality is that the end of the baby boom generation (in the West, as well as in the People's Republic of China) means that neither wealth nor power projection are dependent upon population size. To a large extent this has always been true. Now it is absolutely true, as long as electricity in fixed and mobile forms dominates the wealth/ punishment spectra.

For this reason, the population reductions emerging in the PRC and Russia, for example, are significant potential assets. At the same time, however, as the transition continues from the kinetic age to the virtual age, there remains a fear of abandoning any or most of the legacy tools of power, whether we talk of population numbers and the availability of manpower, or whether in terms of the weapons systems and platforms which have evolved, particularly since the late 19th Century.

We cannot ignore the legacy factor of population — growing, as it has, from around 2.5-billion in 1950 to close to eight-billion today — because that still provides the underpin-

ning basis for cash generation. And that great generator of cash has been the transformation of an immutable tangible feature of geography, *property*, into a dynamic creator of financial wealth. And we need to understand that with the rise of property as an indicator of wealth, what freed our capacity to transform that asset from static to dynamic was the evolution of our *concept of currency* — itself an abstract psychological concept — into one of credit extrapolated into many forms.

This was accelerated in direct proportion to the degree of population urbanization, which in 2018 globally reached 55.271 percent, and reflected the demand-driven escalation of valuations of urban real estate which could then be made dynamic, or liquid, through credit.

Which moves us to our next factor, economics.

2. The changing nature of economics: Population growth, coupled with urbanization, from the end of World War II until today meant two overriding things:

- The rise of consumerism as the most significant driver of economic growth; and
- The rise in real estate asset values because of constantly rising demand.

As a result, modern urban thinking is now driven, almost to the point of visceral paranoia, toward sustaining this model. However, we are now moving toward an end to that model, whether we like it or not, because macro-level population reduction is starting to occur at the same time that balanced societal viability is being threatened by mass urbanization and migration.

What will this population chaos do to the very recent economic model of wealth and credit leveraged against demand for urban real estate? Population quantitative and qualitative reduction would reduce demand for urban real estate and would therefore reduce the consumer-driven creation of cash.

So we are moving gradually from a global economic model which had been based around rising population and rising urbanization to an economic model based on declining population — either in absolute numbers or, because educational and linguistic factors make societies unable to create efficiencies — and therefore declining demand or value of urban real estate. This is neither happening overnight nor with clarity, but the massive inertia is underway.

It has the force of nature. Even if the global population, except Africa and India, declines by 20 percent over the coming two decades or so, then we need to think of economic models being rewritten to accommodate the change from rising market size to static or declining market size.

Right now, the internal wars in most advanced economies are between those, mostly urban people, who insist that the growth model must prevail at all costs, and those which wish to revert to the safety of control of the fundamentals of life: food, water, and shelter. This is at the heart of the urban globalist war with the regional nationalists. And it is this fundamental which drives us to the reality that, for example, internal population schisms in each society — the US, the PRC, or Europe — represent the greatest threats to each of these societies before they consider threats from external powers.

3. The changing nature of technology: The most fundamental change of the past few decades is that we have moved past the tipping point in our dependence on electricity as the driver of everything. Electrification makes urbanization viable at the scale we have achieved; it makes every form of advanced warfare viable and more effective. And it has *become* the tool of warfare; the weapon of choice.

Just as electricity has become the basis of modern wealth, capability, and scientific advance, so too has it become the basis of weaponizing the new strategic doctrine and framework: Strategic Information Dominance (SID). This framework embraces and permeates the operational tools of cyber warfare, psychological strategic warfare, information warfare, electronic warfare and the various levels of countermeasures, energy weapons and *their* countermeasures, and all the levels of C⁴I (command, control, communications, computing, and intelligence). It is therefore the guiding hand in the creation and use of the new generation of kinetic weapons and the application of direct force.

But we must bear in mind that the sole goal of power is the imposition of our *will* upon an opponent, rival, or friend; and the countervailing ability to resist such an imposition of will upon our own society and leadership.

The US (and the USSR) in the Cold War calculated strength on an ability, particularly with nuclear weapons, to “blast enemies back into the Stone Age”, but, from the perspective of the end of the second decade of the 21st Century, even the use of strategic nuclear weapons would be “so Stone Age”.

As a result, the decision by Boeing to withdraw for the time being from the US Air Force’s Ground-Based Strategic Deterrent (GBSD) program to replace the Cold War era *Minuteman III* intercontinental ballistic missiles (ICBMs) and their obsolescent nuclear warheads may provide an opportunity for the US to re-think the entire basis of strategic deterrence. ICBM thinking — let alone counter-city nuclear weapons thinking — is now profoundly “old school” in much the same way that manned penetrator bombers and carrier strike groups are “old school”. They represent the legacy systems which we dare not, yet, discard. But we must calculate where, at what cost in manpower, doctrinal, and budgetary terms, they still fit into our spectrum of priorities.

The GBSD has begun as an \$85-billion program, and one to which the incoming Chairman of the US Joint Chiefs of Staff Committee, Gen. Mark Milley, has thrown his support. But the US at this moment has the opportunity to weigh whether the funding for GBSD could be safely diverted to next-generation capabilities, allowing the *Minuteman III* “hold the line” with old-fashioned nuclear deterrent capability during the transition period.

The US is, from a defense funding standpoint, putting far less than the GBSD’s \$85-billion into the search for quantum computing leadership, which not only can drive the immediate future of cryptography, cyber defensive and offensive capability, and potentially the management of next-generation hypersonic kinetic weapons, but which could also materially drive commercial market advantages. The People’s Republic of China (PRC) is investing far more heavily than the US in quantum computing in order to deliver civil and military advantages.

Already, the PRC approach toward quantum radar is likely to render stealth technologies — an evolution from 20th Century technologies — useless. Whither, then, the USAF/Northrop Grumman B-21 *Raider* manned bomber program which is expected to cost as much or more than the initial estimates for the GBSD program?

Certainly there are paths along which existing or evolved ballistic missile or manned platforms can be made more survivable for the time being, using quantum computing to enable more nimble countermeasures and hardening with regard to hacking. But increasingly the combination of quantum computing, artificial intelligence, and hypersonics owns the next round of battlefield dominance. That, however, depends on how survivable electrical and electronic systems are to cyber penetration, which needs only to be destructive in a blunt sense to gain advantage in many scenarios.

The PRC is using quantum computing to enable its new generation of satellite communications to be “unhackable”, and to be able to start developing by 2020 a market dominating Eurasian quantum satellite communications network. This would have significant geostrategic advantages for the PRC in being able to further lock the US out of Eurasia, economically and militarily.

But it also makes the move into space warfare far more urgent.

The PRC and Russia are already well advanced on consideration of space as a seamless extension of the atmosphere in the battlespace context.

Dr Stefan Possony, advising Ronald Reagan before (and after) he became US President in 1981, created the concept of the Strategic Defense Initiative (SDI) in order to utilize space-based platforms to detect, and subsequently neutralize, the launch of ballistic missiles. The technologies capable of achieving Possony’s vision — which was supported with variations by such as the codenamed *Brilliant Pebbles* approach of nuclear warfare pioneers Lowell Wood and Edward Teller of the Lawrence Livermore National Laboratory (LLNL) in 1987 — were clearly within reach even when Possony proposed it in the early 1970s.

Little wonder the Soviets mounted possibly their most effective Information Dominance campaign to stop SDI politically. But not in time to save the USSR itself from collapse, partly because Moscow had to spend well beyond its limited means to counter SDI.

Now the Possony vision of space-based, energy-derived weapons which can be used against ballistic missiles and other space traffic is fully achievable. So it is significant that Possony, who in 1938 was strategic advisor to the French Air Ministry (before he was grabbed by the invading *Gestapo* ahead of the German conquest of France, escaping then to the US to work initially with Albert Einstein at the Institute of Advanced Studies), is unwittingly at the heart of the plan announced on July 13, 2019, by the French Government of Pres. Emmanuel Macron to make France “the third space power”.

On July 25, 2019, French Minister of the Armed Forces Florence Parly detailed the various organizational, legal and capability aspects of this space defense strategy. She confirmed that the French Air Force (*Armée de l’Air*) would eventually be renamed the Air and Space Forces (*Armée de l’Air et de l’Espace*). Meanwhile, effective September 1, 2019, Space Command would be created to succeed the existing Joint Space Command, created in 2010. It would be based in Toulouse under the authority of the Air

Force, and would initially consist of 220 people. It was to include an innovative space laboratory (Space Lab), working closely in collaboration with the DGA (*Direction générale de l'armement*, the French Government Defense procurement agency) and CNES (*Centre national d'études spatiales*, the French Government space agency). The Minister said that a space academy would be created.

Armed Forces Minister Parly noted: "I decided to launch a new weapons program named 'Master of Space'. Quite simply. It will integrate two components: surveillance and active defense. This defense capability, both from the ground and in space, must allow armies to enforce the peaceful use of space, to discourage unfriendly or hostile acts against our space assets." She added: "A draft law to amend the legal framework established by the law of June 3, 2008, on space operations will be proposed soon, and will be guided by two principles: to free our armies and protect our capabilities."

Guiding and giving urgency to the French decision was the recognition that French space assets were already under attack.

In 2018, Minister Parly had indicated that the Russian *Luch Olymp* satellite had moved in close proximity to the *Athena-Fidus* Franco-Italian satellite used for secure military and police communication, and attempted to intercept signals traffic through that satellite. She said that the *Luch Olymp* also "left a business card to eight other satellites belonging to various countries". [*Athena-Fidus* is a geosynchronous EHF/Ka-band wide-band communications satellite capable of data transfer rates of up to three Gb per second.]

In many respects, the French seemed to be addressing, with more visibility even than the US, the need to upgrade and prioritize space as a key arena of international competition. There was pushback within US political and defense spheres against Pres. Donald Trump's determination to build on the space program begun by Pres. Reagan.

Pres. Trump on February 19, 2019, issued Space Policy Directive-4 (SPD-4), which called on the Secretary of Defense to create a Space Force, and to acknowledge that "space is now a war-fighting domain just like the air, land, and sea". Space Force would initially be established within the Department of the Air Force, and function, in effect, with the same relationship that the US Marine Corps has to its parent, the US Navy.

Hypersonic weapons — by definition systems which can travel at least at Mach 5 — will change the war in space and may, in any event, reduce the need for current ballistic missiles which are, by the standards even of 2020, primitive systems. That will not negate the need for space defense systems, still based on Possony's premise that autonomous solar-derived energy weapons can be used for offensive and defensive purposes in space. By reducing the ballistic missile focus as the principal weapon to the target (ballistic missiles still have some initial phase rôles in the launch of hypersonic glide vehicles: HGVs), the US, UK, France, the PRC, India, the DPRK, Iran, and others would be able to substantially improve the flexibility and nimbleness of their strategic and theater defenses while reducing costs.

And yet the US remains apparently fighting for leadership in the hypersonic field. The US Air Force has at least five major known hypersonic projects and at least two more which are unacknowledged. Russia, on the other hand, has already successfully tested,

multiple times, its *Kinzhal* (“dagger”) air-to-surface hypersonic system from a MiG-31 fighter and a Tu-22M3 bomber. In December 2018, it completed its fifth test of the Mach 8 ship-based hypersonic *Tsirkon* (“zircon”) surface-to-surface system.¹

Then, at the end of 2018, Russia launched its *Avangard* (“vanguard”) Mach 20 HGV from an SS-19 ICBM, flying it unpowered from release over Dombarovsky in the Urals to Kamchatka, 3,500 miles away. Russia reportedly sought to deploy the *Avangard* on two types of ballistic missile, including the RS-28 *Sarmat* ICBM, as early as 2020.

The PRC between 2014 and 2016 conducted at least seven tests of its DF-ZF HGV — at speeds up to Mach 10 and ranges up to 1,250 miles — and had, by November 2017, already completed two tests of the new DF-17 medium-range ballistic missile equipped with an HGV.

It is highly significant that, in order to catch up from its late entry into the HGV world following the defense malaise of the Barack Obama presidency (2009-17) (coupled with the high diversion of funds and talent to fight the “War on Terror”), the US turned to existing research leadership on hyper-sonics already underway at the University of Queensland, Australia.

Of course hypersonic capabilities could be used to reinvigorate the efficacy of nuclear warheads, although kill capabilities from the kinetic power of the impact of such weapons remains high even without nuclear warheads. India’s *BrahMos* system, jointly developed with Russia, has already given Indian ground, naval, and air forces a hypersonic weapons capability, and its deployment is being accelerated, not reduced, as has been reported in some US sources.

The US Navy is also looking at the development of hypersonic cruise missiles (HCMs) to replace the increasingly vulnerable 550mph, 1,500 mile range *Tomahawk* cruise missiles on board submarines (and surface combatants).

It begs the question as to the long-term viability or cost-effectiveness of the large SSBN “bomber” submarines with their submarine-launched ballistic missiles (SLBMs). Such a factor could transform the balance of the UK’s Royal Navy fleets, freeing greater funding and manpower for power projection units, such as frigates.

The UK’s entry into hypersonic systems was only formally revealed in mid-2019, and France only entered the field at the beginning of 2019. Australia, arguably, entered the field much earlier than either, although it is unclear whether the experience of the University of Queensland’s research has found its way into independent force planning in Australia, or whether it has now been entirely subsumed by the US.

The use of hypersonic weapons as anti-ballistic and anti-HGV systems will clearly accelerate as maneuverability and accuracy improve. It may well be worth the US’ while, given its late entry into the field, to devote early energy to the use of hypersonic systems as countermeasures to the imminent threat of Russian, PRC, or other hypersonic offensive capabilities. The rôles of the quantum computing, artificial intelligence, and machine learning in honing refinements to the hypersonic missions will be critical in the coming decade.

But the unbridled move into new hypersonic weapons and space warfare still remains hostage to the fundamental framework of social context: will governments and econo-

mies remain stable while the population upheavals continue to threaten national cohesion? And if they do not remain stable, or if their economies and currencies suffer, then funding for R&D, production, and deployment of radical new systems would be jeopardized.

Other factors within the SID/cyber realm could equally nullify advanced military capabilities. Destroy or disrupt the electrical grid of a nation and its economy falters, perhaps with long-term consequences.

Cyber alone can, through the destruction of large electrical grids, cause death and isolation of societies on scales rarely considered by strategists in the past, quite apart from the apocalyptic visions of armageddonists who foresaw science fiction visions of a “nuclear winter” world without living beings.

The significant defense against the growing vulnerability of electrical grids being transformed into “smart grids” has been the evolution of capabilities to transform mass grids into survivable or rebuildable matrices of micro-grids. But such capabilities are not yet universally being considered.

In the meantime, political warfare continues to work on eroding the base electrical power generation capabilities of modern states, by motivating societies to move away from reliable hydrocarbon delivery of electricity. The political move of groups — in Europe, the US, and Australasia, for example — to disrupt, or make economically infeasible, the production of low-cost electricity are just as effective as kinetic or cyber weapons in reducing the capability and wealth of a society.

Thus the “climate change” movement has been effectively weaponized as part of domestic warfare, largely by urban globalist movements.

So, in summary, the emerging contextual threat environment, as well as the evolution to the new era of economic modeling and technology, is layered, complex, and uncertain. In many senses it is also a race between social factors and techno/force projection.

If societies collapse because of internal population schisms, then they will cease to compete militarily or economically. If a society can overcome internal population challenges to be able to project power and dominate vital supply lines, then it might gain sufficient traction to overcome or cope with the global population transformation wave which is developing.

It is easy for strategic planners to become diverted into the comforting realm of technological and battle order competition. But then they presuppose that political and economic factors — the result of societal attitudes — will take care of the basics.

They would be unwise to rely on that supposition. Grand strategy means never taking your eye off all the balls.

Footnotes:

1. For an excellent open source primer, see, Howard, Andrea, LCDR USN, “Fast and Furiously Accurate”, the first prize winning article in the Emerging & Disruptive Technologies Essay Contest, published in US Naval Institute *Proceedings*, July 2019. LCDR Howard notes of the DF-17 MRBM with an HGV: “August 2018 marked the largest victory for China when it tested the Starry Sky-2, which boasts experimental hypersonic wave-rider technology. After initially being carried by a multistage solid-fuel rocket,

the wave-rider aircraft used its own shockwaves as a lifting surface and reached speeds of Mach 5.5 for 400 seconds.”

The Early Warning Column

Do Ancient Aliens Drive Tomorrow's Events?

Analysis. By Gregory R. Copley, Editor, GIS/Defense & Foreign Affairs. History lays the rail tracks which take us into the future. It takes great determination or disruption to force us off the fixed rails which our predecessors built. But when those tracks were built, they were to serve the immediate needs of preceding generations and *their* vision of the future.

Not the future as it actually evolves to be.

The evolutionary construction of technology — tools — and the construction of wealth is only part of the journey, however. We are ultimately only moved from one great epoch to the next by transcendent “external” forces, which often include historical, cyclical patterns of human behavior; that is, great sociological trends or events which evolve *outside* the conscious planning of societies.

Modern, popular fascination with nonsensical “ancient aliens” — visitors from outer space — as the origin of great human achievements provides a wonderful parallel to the reality that the evolutionary tool-building of our ancestors does guide us along paths to the future. This applies as much to the development of weapons systems as to our strategic and military operational doctrines.

In other words, how we use and view our tools — including our weapons and doctrine — trace back to those ancestors whose attitudes and technologies began construction of the “railway to the future”. They drive the largest portion of our worldview, our sense of identity, and our skill-sets. We not only stand on the shoulders of giants; we stand on *everyone* who went before us. Whether consciously or not.

So it is logical that there are those who are fearful, or reluctant, to break with the immediate past, fearing it would force us to march naked into the future. It is not an entirely unreasonable approach. Accept change and new realities, yes, but have some of yesterday's arrows in the quiver, just in case a threat emerges as something familiar. Indeed, we seek to perpetuate our sense of who are our allies and who are our adversaries, because this, too, gives a sense of comfort and familiarity.

But just as we cannot escape easily from the railroad tracks laid down by our predecessors, neither do we, in any large measure, seem to learn from the greater trends and cycles of history. The global, underlying trends seem to us something we would once have called “acts of God”, or “acts of Nature”; beyond our ability to either understand or control.

Those greater trends tell us that, regardless of the care and complexity with which recent history framed our constraints and gave us our tools, all civilizations and empires have their lifespans. “Like Snow upon the Desert's dusty Face[,] Lighting a little Hour or two — is gone,” as Omar Khayyám reminds us.

But when epochs change — and we are now, effectively, on the cusp of moving between epochs — we either understand the macro-sociological drivers, such as population decline (or rise) and population movement, and plan accordingly, or we are subject to them. We become riders or victims.

We saw the human society, after World War II in particular, accept as completely natural the unprecedented aberrance of global population growth and the accompanying wealth that phenomenon created. We did not credit the pace of that growth to the war-driven evolution of logistical structures and, particularly, electricity; we just did not question that it was not natural or sustainable.

Similarly, because that wealth caused (and was caused by) urbanization, it led to the reality that it built within it the seeds of its own end. The post World War II populations did not, in general, replace themselves, which means that population numbers are already in the initial phases of decline, disguised only by urbanization and transnational migration.

Our economic and social models were built upon principles of constantly increasing scale (ie: constantly increasing market size) and wealth. When that growth disappears, an entirely new set of economic and social models will be needed to cope with managing declining market sizes and economic declines due to reduction of demand.

Few want even to address this. It seems too abstract. Easier to grasp something immediate and tangible. It is, writ large, the Washington theme: “The urgent always overtakes the important.” Today’s immediate challenge always precludes consideration that tomorrow our world may change in ways beyond our control. We want it that way. To look beyond the immediate is “beyond our pay grade”.

Beyond our control, perhaps. Beyond our ability to understand and utilize, no. There is a saying in *jiu jitsu*: “Give in to win.” It means, utilize the momentum of your attacker; do not merely attempt to block it. But first we have to accept that the larger world of humanity and nature is ours to understand. If we understand why civilizations and empires have predictable life-spans, and that nature is never static, then we can embrace the reality that change itself is not our enemy, but our tool.

There are, as we see the exhaustion of one epoch and the start of a new one, vital messages for strategic planners:

- Look at mastering a future strategic framework of your own making, rather than reacting to the weakening evolutionary trends of a dying framework;
- Understand the need for creative new models which will be resistant to budgetary uncertainty and the burden human and fiscal cost of legacy systems, doctrines, and technologies;
- Look for lessons in the macro-historical cycles rather than merely in the past few centuries, and understand that what gives national strength is not what we have but who we are.

The “ancient aliens” who slaved to build their security and our futures did so with good intent. But they did not understand the confluence of trends which would actually shape

the future, the future in which we now live. It is only at the end of epochs that we see the great lines they built were but railways to nowhere.
