

Subject: Fwd: Thank you thank you for the Senate.. on friday !
Date: Tuesday, July 2, 2019 at 9:29:35 AM Eastern Daylight Time
From: Ylli Bajraktari
To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: July 2, 2019 at 09:25:11 EDT
To: Sen. Schumer Staff Member, (b)(6)
Cc: Robert Work <(b) (6)>, Sen. McConnell Staff Member, (b)(6)
<Sen. McConnell Staff Member, (b)(6)>, Ylli Bajraktari <(b) (6)>
Subject: Re: Thank you thank you for the Senate.. on friday !

Thank you all

I'm still working on scenarios: for example if TSMC is in Taiwan, and China annexes Taiwan "in some way", and the supply of fastest chips drops to zero, what shall we do?

Lots of issues to discuss thanks

On Jul 2, 2019, at 9:05 AM, Sen. Schumer Staff Member, (b)(6)
<Sen. Schumer Staff Member, (b)(6)> wrote:

Eric/Bob –

Thanks for the notes. We'll certainly stay in touch.

If the two of you are up for it, let's try to do another session in the New Year.

And, if there are any briefings you think (b) (6) and I should take, please let us know. This is an area where we can all stand to learn a little more.

Best,

(b) (6)

From: Robert Work <(b) (6)>
Sent: Sunday, June 30, 2019 9:03 PM
To: Eric Schmidt <(b) (6)>
cc: Sen. McConnell Staff Member, (b)(6) (b) (6)
Sen. Schumer Staff Member, (b)(6); Ylli Bajraktari
<(b) (6)>
Subject: Re: Thank you thank you for the Senate.. on friday !

(b) (6), (b) (6): just want to add my direct thanks as well.

Best, Bob

On Jun 30, 2019, at 5:47 PM, Eric Schmidt

<(b) (6)> wrote:

(Eric sending on behalf of Bob as well. Looking forward to more..)

Dear (b) (6) and (b) (6),

Thank you for hosting Friday's briefing to senate staff on artificial intelligence and national security. We were delighted--and a little shocked--by the pre-Fourth of July recess turnout.

We are confident the National Security Commission on Artificial Intelligence will provide substantive recommendations and a conceptual framework for approaching the AI challenges and opportunities of today and the future. The depth and breadth of staffers' questions and concerns are promising signs of the Hill's willingness to take on the challenge, but also of the difficulty of moving into a new era. We will do everything we can to examine the issues they raised.

We are extremely grateful for the bipartisan, bicameral support we have received, and urge you to stay in touch with the Commission on issues big and small. We and the Commission staff will keep you apprised of our work over the next two years. We will look to you for ideas and to stress test our findings and recommendations.

We stand ready to assist Senators McConnell and Schumer. By October we will be in a position to preview our findings and solicit feedback in preparation for submitting an interim report in November. Perhaps that would be a good time for us to discuss the Commission's interim findings with your leadership. I would also like for you to talk to Ylli about an event we are planning for November as part of the rollout of our interim report. We would really like to have both leaders involved.

Thank you again. We look forward to continuing to collaborate with you on this important mission moving forward. You can always reach us or Ylli. You are our most important customer.

Best,

Dr. Eric Schmidt
Chairman, NSCAI

Hon. Robert Work
Vice-Chairman, NSCAI

Subject: Re: Status Update from the National Security Commission on Artificial Intelligence

Date: Tuesday, July 2, 2019 at 9:36:53 AM Eastern Daylight Time

From: Eric Schmidt

To: Yll Bajraktari

CC: Robert Work, Safra Catz, Steve Chien, Mignon Clyburn, Chris Darby, Kenneth Ford, José Marie Griffiths, Eric Horvitz, Andy Jassy, (b)(6), Gilman Louie, William Mark, Jason Matheny, Katharina Mcfarland, Andrew Moore, NSCAI Staff, (b)(6) NSCAI Commissioners, (b)(6)

Ylli,

I want to congratulate you in hiring an amazing staff. The people we are now working with are amazing. I'm sure this guarantees our success !

We had an amazing day in DC and I very much look forward to next week ! Thanks Eric

On Jul 1, 2019, at 9:58 PM, Yll Bajraktari <(b) (6)> wrote:

Dear Commissioners,

Below is an update across all of our efforts prepared by (b) (6) (Commission Staff), including:

1. Chair and Vice Chair Congressional Briefing
2. Working Group / Special Project Updates
3. Plenary Information
4. Outreach and Engagement
5. Personnel Update

IMPORTANT: We look forward to seeing you all on July 11th in Cupertino, CA for our next plenary. Materials will be send no later than Monday COB.

1—Chair and Vice Chair Congressional Briefing

Dr. Schmidt and Mr. Work held very successful briefings with House and Senate staff on June 28. The briefings were organized on bipartisan basis by the leadership offices in each chamber. Turnout was impressively high. Staff showed strong interest in the Commission's work and raised important issues and questions.

Talking points drafted for the briefing are [attached here](#).

2—Working Group / Special Project Updates

WG1 – Maintaining Global Leadership in AI Research (Moore, Schmidt, Horvitz)

Status: The group held its second meeting on June 28 at the Pentagon, (b) (5)

Summary of discussion is being finalized and will be sends out shortly.

WG2 – Maintaining Global Leadership in AI National Security Applications (Catz, Ford, McFarland, Jassy, Chien)

Status: Staff members are conducting engagements with DoD and IC organizations to (b) (5) [redacted].
[redacted] During the next two months, staff will visit some of the most prominent labs and research centers to conduct an analysis for the Commissioners based on the last meeting due outs.

WG3 – Preparing Our Citizens for an AI Future (Griffiths, Work, Mark, Clyburn)

Status: The group continued to engage with DoD, the IC, and other parts of government. (b) (5) [redacted].
[redacted] The group will continue to solicit input and study hiring practices, and begin to plan the next WG meeting. The staff is also working on the due outs from the last working group.

WG4 – International Competitiveness and Cooperation in AI (Matheny, Darby, Louie)

Status: The group held its second meeting on June 20, focused on cooperation with allies and partners. (b) (5) [redacted].
[redacted] (Link to summary of discussion [here](#))

Special Project / Partnerships – Special Project staff will visit the Naval Surface Warfare Center Crane, in Indiana, on July 8. (b) (5) [redacted].
[redacted] (Draft agenda available [here](#))

Special Project / Ethics – (b) (5) [redacted].
[redacted]

Special Project / Data – The Special Project continues to invite Commissioners' input and suggestions on projects, organizations, or experts who might offer relevant insights and experiences. Some initial ideas based on WG4 meeting with the allies are emerging.

3—Plenary Information

The next plenary meeting is scheduled for July 11 in Cupertino, CA (same location as the May meeting). We are coordinating with your staffs on details.

4—Outreach and Engagement

In the past few weeks, NSCAI staff members have engaged with the Joint AI Center, Air Force Research Lab, Army AI Task Force, DARPA, Johns Hopkins Applied Physics Lab, NGA, Yale Law School, CNAS, CNA, Univ. of Chicago, Joint Staff, Ethical Intelligence, RAND, DOE, DIB, Georgetown CSET, Carnegie Mellon SEI . . . and many others.

We are tracking staff engagements in a spreadsheet [linked here](#). So far, we have conducted more than 80 engagements with experts from academia, private sector, think tank, etc.

5—Personnel Update

We have welcomed two new staff members:

-- Michael Lueptow has joined from the Senate Homeland Security and Governmental Affairs Committee to serve as General Counsel to the Commission.

-- (b) (6) has joined from Georgetown University to serve on the Research and Analysis Team, with a focus on supporting Working Group 4.

Please let us know if you have any questions or need more info.

See you next week.

Ylli

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Subject: Re: NSCAI July Report

Date: Saturday, July 6, 2019 at 10:47:05 AM Eastern Daylight Time

From: Eric Schmidt

To: Yll Bajraktari

CC: Michael Gable, NSCAI Staff Member, (b)(6), Robert Work, NSCAI Staff Member, (b)(6)

Yes good let's proceed

On Fri, Jul 5, 2019 at 7:04 AM Yll Bajraktari <(b) (6)> wrote:

Dear Sirs,

I hope you had a great Fourth of July day.

As part of the plenary materials that I am sending out to all the Commissioners on Monday, I wanted to include the draft July report to Congress. Before I do that, I wanted to share the draft with you and get your thoughts.

The report is basically a summary of what you discussed with the Hill staff last Friday (key topics: status update on how we are organized and areas we are assessing).

Once you review and concur, I'd like to get this approved at the plenary session next week.

Separately, our spokesperson Tara Riegler (she is fantastic) starts officially on Monday and will draft a Public Affairs plan to accompany this report.

Lastly, I want to thank the best writers in DC for putting this report together (b) (6) and (b) (6). All the credit goes to them!

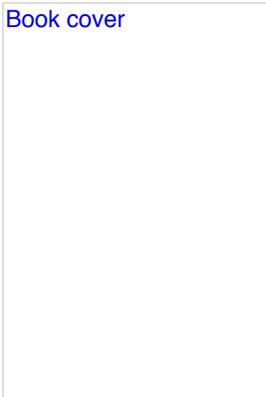
Ylli

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We wrote another book!!! Available 4/16/2019
www.trilliondollarcoach.com

Book cover



Subject: Fwd: Centennial of the First Transcontinental Motor Convoy
Date: Sunday, July 7, 2019 at 6:36:28 PM Eastern Daylight Time
From: Ylli Bajraktari
To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: July 7, 2019 at 18:27:07 EDT
To: "Marcuse, Joshua J HQE OSD Osd" <(b) (6)>, (b) (6)
<(b) (6)>, (b) (6), (b) (6)
<(b) (6)>, Ylli Bajraktari <(b) (6)>, Robert Work
<(b) (6)>, (b) (6)
Subject: Fwd: Centennial of the First Transcontinental Motor Convoy

This is fun

Begin forwarded message:

From: Michael Robert Auslin <(b) (6)>
Subject: Centennial of the First Transcontinental Motor Convoy
Date: July 7, 2019 at 2:11:08 PM PDT
To: Michael Robert Auslin <(b) (6)>

Friends,

Today, July 7, marks the centennial of one of the great expeditions in American history, the First Transcontinental Motor Convoy. Traveling from the White House to San Francisco along the Lincoln Highway (or what of it existed at the time), the convoy was designed not only to promote the motorized modernization of the U.S. Army after World War I, but its 81 vehicles and 300 soldiers (including a young Dwight Eisenhower) also was charged with ascertaining whether the country could send troops cross-country to defend the West Coast of the United States from overseas attack by Imperial Japan. Their two-month odyssey was a triumph of the mechanical spirit and directly influenced Ike's Interstate Highway System plan of the 1950s. I hope you find the following essay about the convoy an interesting episode in U.S. history:

<https://www.nationalreview.com/corner/commemorating-the-centennial-of-the-first-transcontinental-motor-convoy/>

Centennial First Transcontinental M
Convoy | National Review

By bringing the dream of cross-country automobile travel closer to a reality, the First Transcontinental Motor Convoy helped change the course of American history just as more illustrious ...

[Best,](#)

Misha

Commemorating the Centennial of the First Transcontinental Motor Convoy

Just outside the fence on the South Lawn of the White House is a squat granite monument, usually surrounded by tourists snapping shots through fence and awash in discarded soda cans and plastic water bottles. Though ignored by nearly everyone who passes it, the monument marks the Zero Milestone for one of the most audacious expeditions in American history. As Americans prepare to celebrate the 50th anniversary of the Apollo 11 moon landing, and we recently marked the sesquicentennial of the completion of the Transcontinental Railroad, this year offers up one more anniversary of extraordinary American ingenuity and grit, one that in many ways changed daily life even more profoundly than either of the other two events.

One hundred years ago, on July 7, 1919, a procession of over 80 U.S. Army vehicles embarked on the First Transcontinental Motor Convoy across the United States. Today, such an effort is not even something to consider extraordinary. Like thousands of others, my family drove across country last summer, and back again in the winter. We took a

leisurely ten days to cross the continent, stopping at historical sites along the way, including Promontory Point, Utah, where the Union Pacific and Central Pacific railroads met in May 1869. Our trip on well-maintained highways and interstates, staying at clean motels, filling up at regularly placed gas stations, and eating safe food could not be more different from what faced the troops of the Motor Convoy, let alone any civilian travelers foolhardy enough to try and drive across the United States. Enduring constant breakdowns, broken bridges, nonexistent roads, knee-high mud, sand dunes, storms, and heat, the 300 men of the convoy successfully crossed the country in exactly two months, reaching San Francisco on September 6.

The convoy set out just two months after the 50th anniversary of the completion of the Transcontinental Railroad, and while it was not the first crossing of America by car (that had occurred back in 1903), nothing like it had been attempted before. As opposed to a sole adventurer crossing largely wild territory, the Army wanted to show that cross-country road travel was a real possibility. The genesis of the convoy was the new era in military transport engendered by technological advances in World War I, which had ended just the year before.

Yet its significance far transcended simple military interest, allying with the Good Roads movement that advocated a national highway system for civilian use. It also has a geopolitical importance related to the growth of America's Pacific empire at the turn of the 20th century. As noted in the official report on the convoy compiled by Captain William C. Greany of the U.S. Army Motor Transport Corps, the convoy's principal objectives were to "service-test the special-purpose vehicles developed for use in the First World War . . . and to determine by actual experience the possibility and the problems involved in moving an army across the continent, assuming that railroad facilities, bridges, tunnels, etc. had been damaged or destroyed by agents of an Asiatic enemy."

It might be surprising to consider that the War Department was interested in figuring out ways to defend the West Coast of the United States during the 1920s, but the U.S. Navy had already been planning

for war with Japan, and the powerful Japanese Imperial army and navy had proved their mettle by launching both naval and large-scale amphibious and land war campaigns against the Chinese, in 1894–95, and the Russians, in 1904–05. While the U.S. colonies in Asia, particularly the Philippines, were far more threatened by Japanese military expansion, the fear that Japan could one day attack the U.S. homeland drove the Army’s thinking about military modernization. Given how isolated the West Coast still felt from the rest of the country, and how difficult it was to reach it from the east other than by the railroad or a long sea voyage, the idea for the convoy was in some ways a natural evolution in the movement to link the country closer together.

On the morning of July 7, 1919, the convoy gathered at Camp Meigs, a former Union Army fortification in Prince George’s County, Md., that had helped defend Washington, D.C., in the Civil War, to drive to the White House for the official departure. The Transcontinental Motor Convoy consisted of 24 expeditionary officers, 15 War Department staff observation officers, and 258 enlisted men. They climbed into 81 “specialized” military vehicles, including 34 heavy cargo trucks, delivery trucks, a caterpillar tractor (which would become vitally important), a blacksmith shop, kitchen trailers, motorcycles, and touring cars for staff and observers. As Greany’s official report noted, “the expedition was assumed to be marching through enemy country and therefore had to self-sustaining throughout.” Hence the kitchen and blacksmith and machine shops attached to the convoy.

After a ceremony just outside the South Lawn of the White House, attended by Secretary of War Newton D. Baker, the chief of staff, and assorted congressional members, the convoy started on its way just after noon. The Zero Milestone, a temporary marker at the time, was intended to be the equivalent of ancient Rome’s “golden milestone” located in the Forum, marking the distances of all national highways from Washington, D.C. The convoy, led by Army Colonel Charles W. McClure, rumbled northwest, up what is now North Frederick Road toward Frederick, Md., 46 miles away. At Frederick, the group was joined by a final military observer, a young lieutenant colonel, Dwight D. Eisenhower, then of the Tank Corps. At Gettysburg, Penn., the

convoy met up with the new Lincoln Highway, which had been begun in 1913, and whose route it would follow across the continent, whether actual roads existed or not — in most cases out west, they did not.

Almost immediately after leaving Washington, the convoy experienced mechanical trouble, as a fan belt broke on one of the observation cars. Such accidents would plague the convoy across the country, as truck couplings broke, axles cracked, engines overheated, fan belts snapped, and accelerators failed, among other problems. All told, nine of the 81 vehicles were damaged beyond repair along the way, while the convoy encountered 230 road accidents, defined as “instances of road failure and vehicles sinking in quicksand or mud, running off the road or over embankments, overturning, or other mishaps due entirely to the unfavorable and at times appalling traffic conditions.” Given the primitive conditions even on the well-maintained roads, it is not surprising that the expedition damaged or destroyed 88 wooden highway bridges and culverts, all of which were repaired or rebuilt by convoy personnel.

Despite such obstacles, the convoy doggedly made its way across America, though by Day 5 it had already slipped its schedule. It averaged 58 miles a day, at roughly 6 miles per hour, covering a total of 3,251 miles (my family logged exactly 3,500 miles, with all our stops, from Washington to San Francisco). As the convoy progressed toward the west, the roads worsened. In his own report to the chief of the Motor Transport Corps, Eisenhower noted the good condition of paved roads in Pennsylvania, Ohio, and Indiana, while in Illinois, the dirt roads began, and “practically no more pavement was encountered until reaching California.” To create ribbons of paved road across the country was the goal of the Good Roads Movement, started by bicycle enthusiasts in 1880, but adopted by automobile advocates in the nineteen-teens, which promoted the macadamizing of American transport trails as a means to promote commerce. Three years after President Woodrow Wilson signed the Federal Road Aid Act in 1916, the Transcontinental Motor Convoy vividly demonstrated just how far America had to go in developing even a basic national highway system.

Of the 3,000 miles the convoy traveled, over 50 percent — or 1,778 — were over dirt roads, wheel paths, mountain trails, desert sands, and alkali flats. We, too, got onto dirt roads, in Wyoming, and passed over alkali flats in Utah, and desert sands, in Nevada. But the convoy could not avoid such hazards, often stopping to push the vehicles by hand through knee-high mud or pulling them with the overworked tractor. When trapped in salt flats near Salt Lake or the Fallow Sink region in Nevada, all hands regardless of rank strove to save the expedition. The worst day of the expedition was undoubtedly August 21, outside of Orr's Ranch, Utah, where salt and sand ensnared the entire convoy. The entire company put in "superhuman efforts" for over ten hours in blistering heat to rescue the vehicles; that day the convoy covered a total of 15 miles. Throughout the desert, the expedition suffered extremely high temperatures, including a maximum of 110 degrees Fahrenheit. Weeks later, the men, bivouacking out in the open, shivered in the 30-degree temperature of the Sierra Nevada Mountains.

Arriving in Sacramento, on September 3, the company was feted at a gala dinner and acclaimed as new "Forty-Niners," harking back to those who had "endured hardship, privation, discouragement, and even death, to reach this new land." Their host, the head of the Willys Overland Company, later famous as the designer of the ubiquitous military Jeep, honored the convoy members for having "blazed new trails — the trails of Commerce, Highways, Mechanical Attainment, and the Protection of the Flag," this last being a reminder of the geopolitical implications of the expedition. Sixty-two days after leaving the White House, the convoy reached Oakland, Calif., and was ferried across to its terminus in Lincoln Park, San Francisco, on September 6, six days behind schedule.

A year later, the second Transcontinental Motor Convoy departed from the Zero Milestone on a drive to Los Angeles, via San Diego and the southern United States. Smaller than its predecessor, with only 50 vehicles, the second convoy encountered similar, if not worse, road conditions and took 111 days to reach the West Coast, averaging only 30 miles a day. From a military perspective, both convoys proved that while it was possible to ferry Army troops and materiel across the

nation, the West Coast of the United States was essentially on its own in the case of an enemy attack, except for what Navy and Army forces were based in California. Hence, the need for a reliable national highway system.

That advocacy was a key success of the First Transcontinental Motor Convoy. It was perhaps the first great modern public-relations operation of the U.S. Army, other than victory parades, and helped secure the passage of the 1921 Federal Aid Highway Act. The convoy passed through roughly 350 communities across eleven states. According to the official report, 3,250,000 Americans had the opportunity personally to see the convoy and “to understand the vast importance and urgent necessity of motor transport and good roads in the cause of national defense,” as the report noted. The War Department estimated that 33 million Americans, one-third of the population of 106 million, were exposed in some way to the convoy. Indeed, as Eisenhower and the daily log noted, the convoy was welcomed by local officials and enthusiastic crowds in many of the towns through which it passed, with music performances, dances, and large outdoor barbeques. In Grand Island, Ohio, for example, around 3,000 people came to the celebration, while in Rock River, Wyo., the Red Cross Canteen Service provided the entire convoy with lunch. Given such receptions, the convoy did not quite act as a “self-sustaining” unit in enemy territory, as the War Department had originally envisioned.

Those thousands who saw the convoy, and the untold millions who read about it in newspapers ranging from the *Trenton Evening Times* to the *Duluth News Tribune* and the *Oregonian*, helped create a deeper sense of nationhood across far-flung communities linked only by limited rail lines. Perhaps above all, the convoy fixed in Dwight Eisenhower’s mind the necessity of a grand cross-country interstate highway system, which he championed as president nearly a half-century later.

As a technical feat, the 1919 convoy ranks highly in the pantheon of American endeavors, if not as dramatic as truly monumental achievements like the Lewis and Clark Expedition or the building of the

Transcontinental Railroad. Yet, by bringing the dream of cross-country automobile travel closer to a reality, the Motor Convoy helped change the course of American history just as much as more illustrious predecessors. As car travel changed the nature of American life in the 20th century, capped perhaps by Eisenhower's Interstate Highway System, the men of the 1919 convoy stood as prophets of a new age. Perhaps most incredibly, just 50 years after the convoy struggled through the mud of Nebraska and the sands of Nevada, Americans stood on the surface of the moon. A century of technological miracles, from the railroad to the highway to the Saturn V, defined the American tradition of breaking boundaries and mastering nature.

Note: Those interested in the First Transcontinental Motor Convoy can find an archive of online materials at the [Dwight D. Eisenhower Presidential Library website](#), including official reports, Ike's report, the daily log, and wonderful photographs, all of which were used for this article. Ike also devoted a short chapter to his experience on the convoy, "Through Darkest America with Truck and Tank," in his volume of memoirs, *At Ease: Stories I Tell to Friends*.



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(b) (6)
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<https://www.hoover.org/profiles/michael-auslin>

Subject: Fwd: ChinAI #56: The Sour Past of "China Chips"
Date: Monday, July 8, 2019 at 11:35:18 AM Eastern Daylight Time
From: Ylli Bajraktari
To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: July 8, 2019 at 06:09:33 EDT
To: "Marcuse, Joshua J HQE OSD Osd" <(b) (6)>, Robert Work <(b) (6)>, Ylli Bajraktari <(b) (6)>
Subject: Fwd: ChinAI #56: The Sour Past of "China Chips"

Well worth reading

----- Forwarded message -----
From: ChinAI Newsletter <(b) (6)>
Date: Sun, Jul 7, 2019 at 7:35 PM
Subject: ChinAI #56: The Sour Past of "China Chips"
To: <Eric Schmidt, (b)(6)>

ChinAI #56: The Sour Past of "China Chips"

Plus, Launch of Paid Subscriptions (AKA Guardian-Style "Tipping")

Jul 8 Public post

Welcome to the ChinAI Newsletter!

***Today we officially transition to paid subscriptions in the form of a *Guardian*-style tipping model for ChinAI: **regardless of whether you pay to subscribe or not, you will get access to every issue.** Those who can pay for a subscription will help support access for all. This will enable me to compensate contributors for amazing work (see this week's awesome translation and analysis powered by Lorand Laskai), donate 10% to [GiveWell](#), and buy more gummy worms.

There are two ways to tip (though if this works Substack may add more options): **1. \$12/month** (still cheaper than Netflix's standard monthly plan!), **2. \$30/year** (an even cheaper way to show your support). **No worries at all** if you can't chip in at the moment; new readers can click the "None - decide later" subscription plan to get everything for free. If you already get the weekly emails and want to tip for the content, all you have to do is click the light blue subscribe button at the top right corner and pick your plan.

I'm not going to give a long pitch on why you should subscribe — I think the 113,400+ words of translated text and year+ of analysis should speak for itself — but if you need extra encouragement, here's one endorsement from someone who I thought was the best go-to source on understanding the differences between various AI chips:



James Wang
@jwangARK

Jeff Ding's [@jjding99](#) ChinAI newsletter is the best single source of news and analysis on China's AI development. Few know about it—reading it today is like reading Stratechery in 2015. I had a blast interviewing Jeff. Enjoy this week's episode of FY! 🎧

arkinv.st/2EpKjNs

c

May 22nd 2019

9 Retweets 66 Likes

The goal here is to redefine what it means to be gatekeeper in the “China-watching” space, so I just want to get one thing off my chest in response to many people who have asked me to be more “objective.” First of all, no one is completely objective. Everyone carries their biases and blind spots with them. Here are some of mine that may be relevant for ChinAI. I was born in Shanghai and raised in Iowa City — some of my most formative experiences growing up were rooted in the Chinese American Christian church and the policy debate community. You can read my **personal blog** if you want to go down the rabbit hole of how all those mix together.

As for how this shapes my view of ChinAI, I think much of the Western fear of China's AI development is over-hyped and this hype creates the conditions for bad policy-making. My "[Deciphering China's AI Dream](#)" report hammers home the former point and my testimony before the [U.S. China Economic and Security Review Commission](#) makes the latter point. As I lay out in this [working document](#), I think most discussions of U.S.-China competition in AI lean way too far in the "techno-nationalist" direction, neglecting "techno-globalist" countercurrents. For example, the "AI arms race meme" and the "US China Tech Cold War" are two memes that I believe should never be employed unless the person using them has read through a single book on the actual Cold War (I would recommend *The Heavens and the Earth* by Walter A. McDougall).

Rather than pretending to hold a perfectly neutral "view from nowhere," I would much rather have gatekeepers and writers openly acknowledge how their roads traveled are shaping their view of the path forward — we should all read a bunch of diverse viewpoints from flawed, opinionated human beings. Where ChinAI differs from the rest is I'm not afraid to constantly admit when I get it wrong as well as learn from mistakes with the help of a community editing process run by readers and contributors.

These are Jeff Ding's (sometimes) weekly translations of Chinese-language musings on AI and related topics. Link to [subscribe here](#) and archive of all past issues [here](#). Jeff is a Rhodes Scholar at Oxford, PhD candidate in International Relations, Researcher at GovAI/Future of Humanity Institute, and Research Fellow at the Center for Security and Emerging Technology.

Feature Translation: The Sour Past of "China Chips"

This week's feature translation is a joint work by Lorand Laskai (who dug up this epic piece) and myself. I've learned a lot from Lorand's past work, first coming across his analysis on China's civil-military fusion all the way back in [Issue #5 of ChinAI](#) and continuing to follow his stuff on [China's attempt to build its own "Space-X"](#) as well as his joint work with Samm Sacks on the [right way](#) to protect America's innovation advantage. Lorand was previously a research associate at the Council on Foreign

Relations and a researcher at the Financial Times in Beijing. He's currently a visiting researcher at Georgetown's Center for Security and Emerging Technology (CSET). Below is our analysis and summary of this sweeping ride through six decades of China's chip history:

One of the most discussed questions since the Trump administration added Huawei to the entity list in May is whether the Huawei blacklisting, in combination with last year's ZTE blacklisting, would sufficiently motivate China to get serious about ending its dependence on foreign chips. Many, including Lorand, **argued** it would. Watching companies like Huawei and ZTE falter because of their reliance on U.S. semiconductors, Chinese tech companies will bring their supply chains home and work towards indigenizing chip technology. However, an important corollary to that question is: Even with the full support of its government and tech industry, does China have what it takes to develop an internationally competitive semiconductor industry?

That's the **260-billion-dollar** question. A world-class Chinese semiconductor industry would change everything. Still, China has been trying to develop a homegrown chip industry for decades and has little to show for its efforts. Few remember Project 908 or the Longson CPU, precisely because they failed to make a dent in China's chip dependence. The question is will it be different this time around?

It's within this context that Boss Dai's long piece on the "sour past" of China's chip industry is so illuminating. It's an epic read (8000+ words in translation) that details the large ambitions, personal travails, and policy failures wrapped up in China's semiconductor past. Dai also makes the case for why the past might not repeat itself as China prepares for another push to build a homegrown chip industry.

Here are some key takeaways, divided up according to the author's four historical development stages of China's chip industry:

- **Strong Beginnings (1956-1978):** China was not always so behind in chip technology. The country was initially narrowed the R&D gap with the United States by relying on Chinese returnees like Huang Kun, Xie Xide, and Wang Shouwu. Modeling its approach off Soviet-style planning, China's semiconductor base was initially able to set in place a system to cultivate talent and support state projects like "two bombs one satellite."

- During the Cultural Revolution, however, top semiconductor experts were vilified and removed from their posts. Perhaps because of the political upheaval, China's semiconductor industry failed to reach large-scale industrialization. Summing up the inadequate state of China's chip industry, state semiconductor expert Wang Shouwu said in 1977: **"There are more than 600 semiconductor manufacturing plants in this country, and the total amount of integrated circuits produced in one year is equivalent to one-tenth of the monthly output of a large Japanese factory"**
- *The Chaotic Years (1978-2000)*: After reform and opening, China lacked the technical capacity needed to ingest foreign technology. As a result, China was stuck trying to master outdated technology as the world raced ahead: "China lacked unified planning in the early days; it flocked to set up production lines that were already outdated, which meant that the pace of Moore's Law made these installations scrap metal within an exceptionally short period of time."
 - Often, unrealistic expectation bogged down the industry's development. A top policy planner said in 1977: **"You all want to develop a large-scale integrated circuit industry. Is one year enough?"** Half a century later, China is still attempting to build a "large-scale" chip industry.
 - Beijing attempted to close the growing gap with developed countries through muscular industrial plans like the 531 Strategy, Project 908, Project 909. However, heavy-handed industrial policies yielded dismal results and squandered valuable time. Reflecting on these failures, the author writes, the plans "took a campaign-oriented approach that involved concentrating on a certain technology and attacking it until a breakthrough is made. This approach is effective in the military industrial base and sectors where cost and efficiency are not considerations, such as in 'two bombs, one satellite.' However, in terms of industrialization and commercializations, the approach was on the whole a dead-end."
 - China's past upheaval continued to reverberate and hold China back:

Chip R&D should have been led by the middle-aged technical backbone of university graduates in the 1960s and 1970s; however, back then, China was in the throes of the Cultural Revolution, and professors in semiconductors were cleaning the toilets in detention houses set up by Red Guards rather than educating students. As the article muses, **“So many things in China seem to be problems of the present, but at the core, they are the settling of accounts from the past.”**

- *The Flight of the Geese from West to East (2000-2015)*: Unlike the internet industry, where several talented individuals could get together to raise money to build an app, talent in the semiconductor industry require years of training. First, they need to acquire a doctorate, then they need years of industry experience before they can contribute to China’s chip development. In the early 2000s, the first generation of Chinese talent that studied overseas and worked at top chip companies returned to China. This return “flight of geese” was a boon for the industry, leading to the founding of China’s most successful chip companies: SMIC, Hisilicon, ZTE Microelectronics, Spreadtrum Communications, GigaDevice Semiconductor.
 - Even as the industry grew, Beijing often did not back up its chip companies when it mattered. The author contrasts Beijing’s lukewarm defense of SMIC during its legal battles with TSMC in the early 2000s with the “high-level support and official media encouragement” ZTE received after the Trump administration blacklisted the company last year. Worse yet, after the failed industry planning of the 80s and 90s, the government had little appetite to provide financing to semiconductor firms to upgrade their equipment: **“At most, [the government’s support] was enough to keep the industry alive, but completely insufficient for keeping pace, much less closing the gap with the industry leaders.”**
- *Comprehensive Contestations (2015-2018)*: In part sparked by a joint letter issued by a dozen scholars requesting the country renew its support for semiconductors, China’s leadership recommitted to building a domestic chip industry. In 2014, the government set up the National IC Industry Fund, often

referred to as the “big fund,” which the author believes will completely change the Chinese and global semiconductor industry over the next three years.

- The National IC Fund adopts a different approach to supporting the semiconductor industry: “1) It seeks to support strong companies in the field, including the three industry leaders, providing them with opportunities to receive state funding. 2) The equity investment arrangement was designed to generally not interfere with the production and operations, ensuring the independence of the companies receiving state financing.”
- Another major change: China’s top chip firms are now willing and able to pay top dollar for talent. “The industrialization of chips requires relying on top engineers that ask for millions of dollars in annual salary, rather than pinning their hopes on the selfless dedication of thousands of old experts who ride their bikes to and from work.”

Overall, the author is cautiously optimistic: “To summarize the successes and failures of China's semiconductor industry in one question: **how to reconcile the relationship between capital, talent, and policy mechanisms.**” The author is betting that this latest push has found a workable way to reconcile all three.

[READ FULL TRANSLATION: The Sour Past of "China Chips"](#)

ChinAI Links

Here’s what we know about the author of this week’s feature translation, Boss Dai (戴老板): well-known blogger on finance issues, age in early 30s, a graduate from Shanghai Jiaotong University, left private investing to join the “semiconductor investment national team.” His piece on the sour past of China chips gained attention after Zhang Guobao, the former deputy director of the National Development and Reform Commission (NDRC), called it the “most informed and most accurate” article written on China’s struggle to develop an indigenous chip industry. Dai’s background seems very similar to our old friend “Saidong” whose epic poems about China’s chip industry have featured in past **ChinAI issues**. This week’s **must-read rec** is a piece by Chublic Opinion which describes people like Boss Dai and

Saidong as “development bloggers,” an emerging, formidable force on the Chinese interwebs.

Really cool [MadSciBlog post](#) by Lt Col Dave Calder, British Army, on how understanding Chinese science fiction can help decipher Beijing’s strategic culture.

There seems to be this default urge for the US to do more on AI (partly driven by over-hyping of Chinese AI advances). I found the Center for Data Innovation’s [submission](#) to NIST’s RFI about federal engagement in AI standards to be very refreshing, cautioning against too much government activism in standard-setting. See all the comments received [here](#).

Check out this recent issue on journalism ethics and reporting in China — from [Chinese Storytellers](#), a community that empowers Chinese non-fiction content creators.

Thank you for reading and engaging.

Shout out to everyone who is commenting on the translations - idea is to build up a community of people interested in this stuff. You can contact me at jeffrey.ding@magd.ox.ac.uk or on Twitter at [@jjding99](https://twitter.com/jjding99)

You’re on the free list for [ChinAI Newsletter](#). For the full experience, [become a paying subscriber](#).

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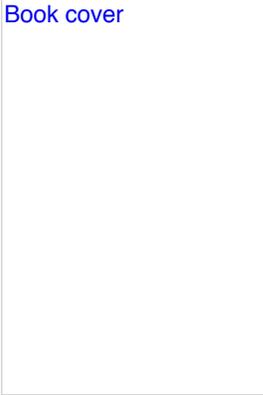
[2611 Walden Road, Iowa City, IA, 52246](#)

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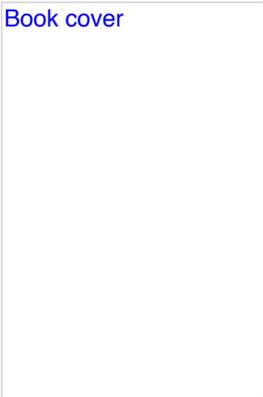
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Subject: Fwd: Tomorrow's plenary - decisions

Date: Wednesday, July 10, 2019 at 2:07:22 PM Eastern Daylight Time

From: Yll Bajraktari

To: NSCAI Staff, (b)(6)

----- Forwarded message -----

From: Eric Schmidt (b) (6) >

Date: Wed, Jul 10, 2019 at 8:07 AM

Subject: Re: Tomorrow's plenary - decisions

To: Yll Bajraktari <(b) (6) >

CC: Robert Work <(b) (6) >

Excellent. Will do

On Jul 10, 2019, at 4:45 AM, Yll Bajraktari <(b) (6) > wrote:

Sirs,

We're looking forward to Thursday's plenary. To summarize my longer email, we'd like to ensure that the meeting leads to four concrete outcomes, and your help in steering the conversation in this direction would be greatly appreciated.

1. Approve July status report to Congress. We're hoping this basic report sails through with unanimous consent. As a reminder on procedure, you agreed early on that a majority vote (8 of 15 commissioners) is needed to approve a substantive matter. You can do this as a voice vote ("all in favor say aye") or an individual roll call vote.
2. Agree on the process and timeline for the November report. The staff's writing team will present this. In short, we propose that each Working Group produce a research memo by September. These can form the basis of a draft interim report for commissioners to discuss at the October plenary.
3. Endorse the November conference concept. Our public affairs lead will brief the basic proposal for the event, which we think can use the occasion of our interim report release to solidify bipartisan support and generate ideas for us to consider in our next phase of work.
4. Recommend steps to better integrate efforts across all the WGs. Staff will recommend ways to improve integration which might require additional time commitments from the Commissioners.

Also: You should give the commissioners a snapshot of the June 28 meetings with House and Senate staff. Some key points: great attendance and interest; and you promised to take a few issues back to commissioners, including how to address privacy in our report.

BREAK/BREAK: In the morning sessions, we have some of the IC representatives with us and via VTC. PLEASE thank them for their assistance. I have never seen such willingness to help than the one we have received so far from the IC. (b) (5)

Thank you again for your leadership and we look forward to the plenary.

Best,

Ylli

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Subject: Fwd: Public meetings

Date: Wednesday, July 10, 2019 at 6:03:20 PM Eastern Daylight Time

From: Ylli Bajraktari

To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>

Date: July 10, 2019 at 14:56:30 PDT

To: Ylli Bajraktari <(b) (6)>

Subject: Re: Public meetings

I would love that

On Jul 10, 2019, at 2:45 PM, Ylli Bajraktari <(b) (6)> wrote:

Not to push this even further but in my opinion we need to do meetings in Europe (NATO and key capitals) and maybe Japan.

On Jul 10, 2019, at 14:34, Eric Schmidt <(b) (6)> wrote:

yes agree

On Jul 10, 2019, at 2:33 PM, Ylli Bajraktari <(b) (6)> wrote:

Absolutely agree and outside of DC.

On Jul 10, 2019, at 14:23, Eric Schmidt <(b) (6)> wrote:

I'm thinking we should have some more public

meetings even though they are not required;
lets discuss

Subject: Re: PA statement

Date: Thursday, July 11, 2019 at 6:48:35 PM Eastern Daylight Time

From: Eric Schmidt

To: Yll Bajraktari, (b)(6)

CC: Tara Rigler, (b)(6)

looks good to me

> On Jul 11, 2019, at 3:21 PM, Yll Bajraktari, (b)(6) wrote:

>

> Eric,

>

> See below the PA statement prepared by Tara that we would like to issue after the meeting.

>

> I thought using a quote from Andy Jassy and Gilman would be good. I still need to run this by them but wanted to check and see if you agree with this?

>

> Thank you

>

> Ylli

>

>

>

> --

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>

> <NSCAI Holds Plenary Session V 3.docx>

Subject: Re: Two papers attached based on your recent questions
Date: Tuesday, July 16, 2019 at 1:00:42 PM Eastern Daylight Time
From: Eric Schmidt
To: Yli Bajraktari
CC: Robert Work, NSCAI Staff Member, (b)(6), NSCAI Staff Member, (b)(6), Michael Gable, NSCAI Volunteer, (b)(6)

Thank you .. will read

I will also send you a longer point of view for discussion thanks

> On Jul 16, 2019, at 9:59 AM, Yli Bajraktari <(b) (6)> wrote:

>

> Eric,

>

> You have asked in the past couple of weeks the following questions:

>

> 1. If TSMC is in Taiwan, and China annexes Taiwan "in some way" and the supply of fastest chips drops to zero, what shall we do?

>

> (b) (6) drafted the one pager attached to address the current USG efforts but we are also going to discuss this issue in one of our meetings in September.

>

> 2. What would be the impact of AI on deterrence and strategic stability? You raised this question at the first plenary and at the second plenary dinner and you asked (b) (6) to write something on it.

>

> (b) (6) drafted the attached paper. We also received feedback from the Cyber Solarium Commission which we incorporated in our paper.

>

> Standing by to respond to any questions you might have and pls send these queries our way.

>

> We are more than happy to do research or organize meetings around these topics.

>

> Best, Ylli

>

>

>

> --

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> <Microelectronics One-Pager 7-16-19.docx><Deterrence Research Note_7.16.19.docx>

Subject: Fwd: (b) (6) resume
Date: Thursday, July 18, 2019 at 5:50:46 AM Eastern Daylight Time
From: Ylli Bajraktari
To: Michael Gable, (b)(6)
Attachments: (b) (6) resume 2019.pdf, ATT00002.bin

I told him we can meet with him or recommend him to the Cyber C

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: July 18, 2019 at 01:25:26 EDT
To: Ylli Bajraktari <(b) (6)>, "Marcuse, Joshua J HQE OSD Osd"
<(b) (6)>
Subject: (b) (6) resume

(b) (6) is a close friend, super smart, all the high level clearances from (b) (6) and very very good

He needs to stay in the greater DC area

If you can think of something he would be good for let me know or follow up with him; thanks !

Subject: Fwd: For our working group

Date: Saturday, July 20, 2019 at 8:27:02 PM Eastern Daylight Time

From: Ylli Bajraktari

To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>

Date: July 20, 2019 at 20:20:37 EDT

To: Ylli Bajraktari <(b) (6)>, Eric Horvitz <(b) (6)>

Subject: For our working group

Jeffrey Ding is a true China expert and said some things different from what we have been saying

<https://www.fhi.ox.ac.uk/team/jeffrey-ding/>

The current view that China is a peer is not actually true. On both semiconductors and AI they are much behind.

- Semiconductor leadership. Hampered by cultural revolution, first mover advantage given iterative learning, and lack of getting semiconductor talent back into China from the US. They have had a goal of leadership here for decades.
- AI leadership is far behind US in his opinion.

On the question of openness (we agree on this)

Open Science — need an approach for filtering these, for example China requires two years after in China for its own government programs and science.

Stay rates of PhD students - 10 year stay rates are about 90% best and brightest want to stay in the US.

People want to be in the US not China.

Obviously we should pay attention to students with strict ties with the PLA

There is a real problem with extra vigilance. Extra vigilance versus fast iteration and bet on US leadership. The fast iteration allows much faster progress than the cost of the losses to China from theft and spying, as the blueprints become less valuable with fast iteration in our US industries. The payoffs accrue to the US to being open to the people in China.

Subject: Re: Draft letter of invitation for Dr. K.

Date: Monday, July 22, 2019 at 7:21:27 PM Eastern Daylight Time

From: Eric Schmidt

To: Yli Bajraktari

CC: Schmidt Support Staff, (b)(6) NSCAI Staff Member, (b)(6)

Yes can we have my office send it to his office thanks!

> On Jul 22, 2019, at 3:38 PM, Yli Bajraktari <(b) (6)> wrote:

>

> Dear Eric and (b) (6),

>

> Attached find the draft letter of invitation for Dr. Kissinger (prepared by NSCAI Staff Member, (b)(6)).

>

> Let me know if you need anything else from this end.

>

> Ylli

>

>

>

> --

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>

> <Kissinger November Conference Invite Letter.docx>

Subject: Re: Request from the War on The Rocks

Date: Monday, July 22, 2019 at 11:22:54 AM Eastern Daylight Time

From: Eric Schmidt

To: Yli Bajraktari

done thanks

On Jul 22, 2019, at 9:29 AM, Yli Bajraktari <(b) (6)> wrote:

They asked if you can tweet the link of the request for papers/ideas.

Here is the link: <https://warontherocks.com/2019/07/in-search-of-ideas-the-national-security-commission-on-artificial-intelligence-wants-you/>

Thanks.

Yli

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Subject: Fwd: kissinger

Date: Monday, July 22, 2019 at 11:52:15 AM Eastern Daylight Time

From: Ylli Bajraktari

To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>

Date: July 22, 2019 at 11:23:28 EDT

To: Ylli Bajraktari <(b) (6)>

Subject: kissinger

Can you send a proper request note to me for Kissinger to participate in the November 5 event in DC, he is likely to say yes

Subject: Re: Leave

Date: Wednesday, July 24, 2019 at 4:42:34 PM Eastern Daylight Time

From: Eric Schmidt

To: Yll Bajraktari

CC: Robert Work, Michael Gable, NSCAI Volunteer, (b)(6)

have a wonderful trip !

> On Jul 24, 2019, at 4:14 PM, Yll Bajraktari <(b) (6)> wrote:

>

> Dear Sirs,

>

> I am writing to let you know that I will be going on leave for the next two weeks starting today. (b) (6)

:)

>

> Mike Gable will keep the lights on while I am gone but I am always available on my email if you need to reach me.

>

> Best, Ylli

> --

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Subject: Re: Beliefs document

Date: Friday, August 2, 2019 at 12:17:10 PM Eastern Daylight Time

From: Eric Schmidt

To: Yli Bajraktari

CC: [REDACTED], Robert Work, [REDACTED]

Thank you and I will review

Really good to see this

On Fri, Aug 2, 2019 at 6:15 PM Yli Bajraktari <(b) (6)> wrote:

Dear Sirs,

Today, I pushed the draft beliefs document to all the Commissioners. [REDACTED] worked on this document which I believe is a strong foundation for our November report. The document is a great summary of many of the assertions, analysis, and current state of play we have heard during our WGs, plenaries, and meetings with experts.

In my opinion, [REDACTED] did an outstanding job capturing all the nuances and dynamics related to AI and national security. They wrote the document in a very balanced way, reinforcing our values, our leadership role, and the challenges ahead. I am very pleased with the document and I hope you will have a chance to provide your valuable input.

In addition to the Commissioners, we have shared this document with all our AI experts ([REDACTED] NSCAI Special Government Employees, (b)(6) [REDACTED]) as well as our Friends of the Commission (NSCAI Volunteers, (b)(6) [REDACTED]).

I believe that will all the input requested by Sept 1st, we will be in a very good position to start finalizing the November report.

Let us know if there is anything you need from us.

Hope you both have a great month of August and get some well deserved break.

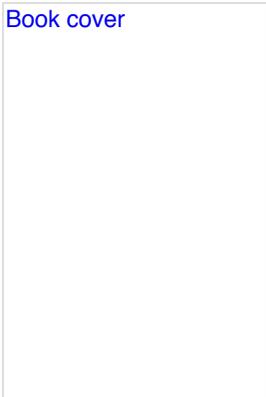
Ylli

--

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We wrote another book!!! Available 4/16/2019
www.trilliondollarcoach.com

Book cover



Subject: Re: China has started a grand experiment in AI education. It could reshape how the world learns.
Date: Saturday, August 3, 2019 at 1:07:01 PM Eastern Daylight Time
From: Eric Schmidt
To: Robert Work
CC: Yll Bajraktari

very !!

On Aug 3, 2019, at 6:49 PM, Robert Work <(b) (6)> wrote:

Eric: an interesting development.

Bob

China has started a grand experiment in AI education. It could reshape how the world learns.

<https://www.technologyreview.com/s/614057/china-squirrel-has-started-a-grand-experiment-in-ai-education-it-could-reshape-how-the/>

Subject: Fwd: From our friend Jeff Ding
Date: Thursday, August 8, 2019 at 8:56:33 AM Eastern Daylight Time
From: Yll Bajraktari
To: Yll Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: August 8, 2019 at 14:43:26 GMT+2
To: Ylli Bajraktari <(b) (6)>, Robert Work <(b) (6)>, Eric Horvitz <(b) (6)>, Andrew Moore <(b) (6)>, (b) (6), (b) (6)
Subject: From our friend Jeff Ding

Debate Segment: Thiel's Messy Spiel

Somehow *The New York Times* published a Google hitpiece/Palantir marketing pitch by Peter Thiel as an oped last Thursday. In a piece that meanders from questioning Silicon Valley's "cosmopolitanism" (which for some reason is put in quotes) to critiquing those who are worried about AI's risks for all of humanity to defending a zombie "Cold War mentality" against China, Thiel's main argument is that Google is helping the Chinese military instead of America by opening an AI lab in Beijing.

Thiel gets **SIX** major things wrong (and counting! See my [Twitter thread](#) for some good back and forth on some of these) in his oped:

1. He gets basic facts wrong: Thiel argues that China's constitution "mandates that all research done in China be shared with the People's Liberation Army." This is just not true. As Lorand Laskai outlined, military-civil fusion certainly does incentivize research-sharing and "aims to create a commercial market for private firms to compete for PLA contracts" but Thiel's claim takes this to an unfounded extreme.

2. No disclosure of conflicts of interest: In the piece Thiel hypes AI's potential to help armies gain an intelligence advantage (that might have been an appropriate time to mention his company Palantir won a decade-long, \$876 million contract to do just this for the U.S. army last year or that Palantir has at least 29 active contracts, worth a combined \$1.5 billion, with the U.S. federal government). As [@ConMijente pointed out](#), this read

like a marketing pitch targeted at government officials who dole out billions in defense contracting.

3. Thiel has a very confused conception of AI: He first says that AI is a military technology at its core. He claims that, as was the case with nuclear fission, “the first users of the machine learning tools being created today will be generals rather than board game strategists.” Um what? Never mind the fact that there are already many first adopters of machine learning tools across a wide variety of commercial verticals (translation services, predictive services in finance, etc.) You could actually take Thiel’s statement and completely reverse it and it would be true. **The first users of the machine learning tools being created today will be board game strategists rather than generals.** Top chess and Go players use machine learning-backed engines to improve; top generals are taking steps to make sure machine learning tools are robust before adopting them into mission-critical operations.

4. Thiel can’t be this ignorant about AI; it seems like he is deliberately trying to give an ambiguous conception of AI to take a shot at those who are concerned about the risks posed by AI for all of humanity. He waffles back to saying AI is dual-use in the middle of the piece and then says this ambiguity is “strangely missing from the **narrative that pits a monolithic 'AI' against all of humanity.**” It’s hard not to take that as a direct shot at my home base, the Future of Humanity Institute, directed by Nick Bostrom who wrote *Superintelligence* (which warned about the risks of artificial general intelligence). Thiel is randomly attacking a straw man in the “terminator” AI meme. As one of OpenAI’s earliest backers, Thiel should know that there are more nuanced views on AGI’s arrival. Take for example: this [reframing of superintelligence](#) by FHI's Eric Drexler, who is widely regarded as the founding father of the nanotech field, in which he outlines a trajectory toward comprehensive, superintelligent-level AI services.

The broader point here is that Thiel seems to not get the basic idea that AI can be many things at the same time. We can recognize that AI like other general-purpose tech (e.g. steam engines or electricity) can empower both civil & military applications AND also see that intelligent agents pose unique risks. The risks of AI exceeding human-level intelligence are just one subset of unique risks posed by AI (others include accident risks from increased automation), but it's definitely not to be dismissed. A **wide range** of AI experts take it seriously.

5) I'd argue Google's efforts to open AI labs in China aren't "cosmopolitan"/anti-US but

lean more toward being self-serving/good for US innovation given global talent flows. Thiel and many others who think that US should not be involved in any offshore R&D in China ignore insights from vast body of lit on the globalization of innovation and tech flows. Let's take a look at one of the key papers from this lit (**Eaton & Kortum 1999**). Drawing from international patent data from the five leading research nations at the time (US, Japan, Germany, UK, and France), Eaton and Kortum find that 40% of U.S. productivity growth came from research performed in the four other industrial leaders. They also show, through a counterfactual experiment why tech isolationism would be such a stupid tactic for the US to adopt: "cutting off the United States from the rest of the world would cause its productivity to fall far behind the other four."

The lesson here is that Google, other tech companies (e.g. Microsoft Research Asia in Beijing), and 1000s of MNCs w/ R&D labs in China aren't doing this work out of charity or some deeply-buried desire to help the Chinese military; rather they want to be plugged into global innovation networks and adopt tech advances from abroad into home bases. Now, are Thiel and others right to point out some of the negative externalities (e.g. indirect leakage to enable some Chinese mil. developments, building up talent that move to Chinese competitors who could overtake in the long-run?) Sure, but let's have an open debate with real arguments backed by empirics instead of *ad hom* attacks on the patriotism of companies like Google.

6) In one respect, I agree with Thiel. There's one strand of the zombie "Cold War" mentality never seems to die: the old playbook of leveraging the exaggerated fears of Cold War competition with a rival in order to advance a totalizing technocracy that wields complete control over society. The historian Walter McDougall's warning, issued about the dangers of America's post-Sputnik techno-nationalist turn, still rings true today:

The social mechanisms required to tap the full technological potential of a nation, particularly in the context of cold war competition, mean we have to pay a price for our advances in science and technology and the price is usually a sacrifice in human values. I believe it is inevitable, as long as international competition is the primary engine moving history, and technology is brought to bear in the competition, that we will move more and more toward management of people by a huge bureaucracy, by technocracy

I don't want the U.S. to compete with China in AI over who can build better tools to censor, repress, and surveil dissidents and minority groups. But that's exactly what Palantir is trying to do in the U.S. with its efforts to create huge, unaccountable data

troves to help policing systems and ICE deportations.

I want us to compete with China in AI over who can build the better industrial Internet of Things and the privacy-preserving algorithms that will help sustain a more trustworthy AI ecosystem.

Subject: Fwd: ChinAI #62: Global AI Industry Stats - the View from China
Date: Monday, August 19, 2019 at 6:24:56 AM Eastern Daylight Time
From: Ylli Bajraktari
To: Ylli Bajraktari, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>
Date: August 18, 2019 at 23:59:15 EDT
To: Ylli Bajraktari <(b) (6)>, Robert Work <(b) (6)>, Eric Horvitz <(b) (6)>
Subject: Fwd: ChinAI #62: Global AI Industry Stats - the View from China

Note statistics on Chinese AI research companies, valuations and ranking of AI research papers..

Begin forwarded message:

From: ChinAI Newsletter <(b) (6)>
Subject: ChinAI #62: Global AI Industry Stats - the View from China
Date: August 18, 2019 at 7:50:02 PM MDT
To: Eric Schmidt, (b)(6)
Reply-To: "ChinAI Newsletter" <(b) (6)>

ChinAI #62: Global AI Industry Stats - the View from China

Plus, a very meaty ChinAI (Four to Forward) Section this week

Aug 19 Public post

Welcome to the ChinAI Newsletter!

These are Jeff Ding's (sometimes) weekly translations of Chinese-language musings on AI and related topics. Jeff is a Rhodes Scholar at Oxford, PhD candidate in International Relations, Researcher at GovAI/Future of Humanity Institute, and Research Fellow at the Center for Security and Emerging Technology.

Check out the archive of all past issues [here](#) and please please [subscribe here](#) to support ChinAI under a *Guardian/Wikipedia*-style tipping model (everyone gets the same content but those who can pay support access for all AND compensation for awesome ChinAI contributors and collaborators like Joy from this week and others like Charles and Lorand from past weeks.

Feature Translation: CAICT Report on the Global AI Industry.

CAICT is a research institute under the Ministry of Industry and Information Technology and one of the co-authors (alongside Tencent Research Institute) of the 500-page book on AI strategy that **first launched this newsletter**. My collaborator this week is Joy Dantong Ma of MacroPolo. Joy found this report and did the bulk of translating, including some of the key graphs. Her analysis: *This report dissects the AI industry into four aspects: company, capital, academic papers, and conferences. It then assesses all major stakeholders, including both institutions and countries, across these aspects. What I find most fascinating is the depth and timeliness of understanding CAICT has on the global landscape. A case in point: in the company section, the report listed 17 unicorns in China, the majority of which are seldom talked about even though China+AI has become such a hot topic. The report also listed out unicorns in the US - Avant, Uptake, Dataminr - that many of us in the US might have never heard of.*

*Also, highly relevant is **a project on Chinese AI companies** that Joy and I and Matt Sheehan worked on back in December 2018, which goes beyond the abstract catchall of AI and drills down into specific verticals (e.g. autonomous vehicles, voice & speech recognition, business intelligence, etc.)

Anyways, back to the report's key findings:

1. As of the end of March 2019, there were 5,386 active artificial intelligence (AI) companies in the world. The US, China, the United Kingdom, Canada, and India rank as the top 5 globally in terms of the amount of AI companies.

2. There are 41 AI unicorns globally, including 17 in China, 18 in the US, 3 in Japan, and 1 each in India, Germany and Israel.

3. Since Q2 2018, global AI investment has gradually declined. The total amount of global investment in AI in Q1 2019 was US\$12.6 billion — down 7.3% from the previous quarter, and flat year-on-year. China's AI financing totaled US\$3 billion, 55.8% down year-on-year, accounting for 23.5% of total global financing, down 29% from the same period in 2018.

4. Statistics on AI academic papers in the past 10 years: China ranks first in terms of the total number of papers published, while the number of highly cited papers is lower than that in the US.

- Chinese research institutes such as the Chinese Academy of Sciences and Tsinghua University are among the upper echelon of AI academic research institutions.
- Google and Microsoft published the most amount of papers in top AI conferences globally.

FULL TRANSLATION: Global Artificial Intelligence Industry Data Report (April 2019)

ChinAI Links (Four to Forward)

This week's **must-read** is a report by Dongwoo Kim (research fellow at Asia Pacific Foundation of Canada) comparing AI policies across China, Japan, and Korea — with an eye toward Canada's interests. The report emphasizes that Japan and Korea are reliable partners for cooperation in the space of AI (5th and 7th largest trading partner), and that Canada could help bridge the gap between China (2nd largest trading partner) and the West. Also, some really good stuff on Japan's Society 5.0 and its Strategic Council for AI Technology's policies as well as Korea's 30-year "Master Plan" for an intelligent information society.

Had a great time talking about AI race rhetoric, Jessica Newman's excellent **China AI Policy primer**, Peter Thiel, relative/absolute gains with Lucas Perry on the Future of Life Institute's **AI Alignment Podcast** — super

impressed by how FLI produces their podcasts — they have a transcript of the entire podcast, detailed time stamps, and long block quotes as key points. Reminds me of a16z's **podcast about podcasting** where they discuss how to improve tools for engaging with podcasts. Jade Leung, my boss and the person who makes GovAI run, was on the **AI Alignment Podcast last month** to discuss GovAI's research agenda and what ideal governance in this space looks like.

Based on a public records request to HK's Government Logistics Department which revealed **tenders** for **facial recognition software**, this is really **excellent reporting** by Rosalind Adams of BuzzFeed on how facial recognition is actually being used by HK authorities: 1) it's likely that no gov depts have used or tested automated facial recognition as part of its CCTV systems, 2) according to the Immigration Department its facial data has not been shared with the Hong Kong Policy Force. HK has contracted with French company Idemia for facial recognition technology to process Hong Kong ID cards (US State Department works w/ same company on same process). However, while automated facial recognition isn't being deployed through CCTV, faces are being weaponized amidst the protests, as Paul Mozur reports in **this NYT piece**.

Rather than centralizing project selection which is what initiatives like the Joint Artificial Intelligence Center do, **Eric Lofgren argues** we should decentralize the Pentagon's budget by mission type to ensure AI projects "receive funding at the speed of relevance." His framework is an important one to consider: "Military capabilities may never benefit from a single general AI application. Instead, they benefit from a variety of narrow AI applications. It seems that the effort spent developing an app for autonomous flight does not contribute much to an app for ground vehicles, let alone automating logistics, target recognition, command and control, or any number of other applications. Each app requires its own data inputs, metric selection, and training." This was published in War on the Rocks as **a response** to Eric Schmidt and Robert Work's call for ideas for the Nat Sec Commission on AI.

Thank you for reading and engaging.

Shout out to everyone who is commenting on the translations - idea is to build

up a community of people interested in this stuff. You can contact me at jeffrey.ding@magd.ox.ac.uk or on Twitter at [@jjding99](https://twitter.com/jjding99)

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2611 Walden Road, Iowa City, IA, 52246

Subject: Fwd: The quantum revolution is coming, and Chinese scientists are at the forefront - The Washington Post

Date: Monday, August 19, 2019 at 6:32:56 AM Eastern Daylight Time

From: Ylli Bajraktari

To: NSCAI Staff Member, (b)(6), NSCAI Staff Member, (b)(6)

Begin forwarded message:

From: Eric Schmidt <(b) (6)>

Date: August 19, 2019 at 00:07:02 EDT

To: Ylli Bajraktari <(b) (6)>

Cc: Robert Work <(b) (6)>, Eric Schmidt Support Staff, (b)(6)

<Eric Schmidt Support Staff, (b)(6)>

Subject: Re: The quantum revolution is coming, and Chinese scientists are at the forefront - The Washington Post

we really do need to say something about quantum esp quantum based learning and training algorithms for AI, can you send around to the whole group(s) for comment thanks

On Aug 18, 2019, at 5:37 PM, Ylli Bajraktari <(b) (6)> wrote:

<https://www.washingtonpost.com/business/2019/08/18/quantum-revolution-is-coming-chinese-scientists-are-forefront/>

Subject: Re: [StopKillerRobots] New PAX report on the tech sector
Date: Monday, August 19, 2019 at 6:45:38 PM Eastern Daylight Time
From: Eric Schmidt
To: Robert Work
CC: Safra Catz, Yll Bajraktari

I think its likely that all of this will force a separate new class of startups who are 100% bought into your vision

> On Aug 19, 2019, at 2:13 PM, Robert Work <(b) (6)> wrote:
>
> <Summary Don't be Evil.pdf>

Subject: Re: Conference Title name

Date: Wednesday, August 28, 2019 at 4:50:19 PM Eastern Daylight Time

From: Eric Schmidt

To: Yll Bajraktari

CC: Robert Work, Tara Rigler, Eric Schmidt Support Staff, (b)(6)

I don't have a strong preference, leave it up to all of you

On Aug 28, 2019, at 9:01 PM, Yll Bajraktari <(b) (6)> wrote:

Dear Sirs,

I wanted to get your opinion about the title of the conference we are planning for Nov 5th.

We have four options that Tara compiled for you to choose from. Please let us know your choice.

1. Strength through Innovation: The Future of A.I. and U.S. National Security
2. Strength through Vision: The Future of A.I. and U.S. National Security
3. Strength through Technology: The Future of A.I. and U.S. National Security
4. Strength through Intelligence: The Future of A.I. and U.S. National Security

Many thanks in advance for your help.

Ylli

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Subject: Re: Opinion | Dear Tech Workers, U.S. Service Members Need Your Help - The New York Times
Date: Wednesday, August 28, 2019 at 10:56:35 AM Eastern Daylight Time
From: Eric Schmidt
To: Yll Bajraktari
CC: Robert Work, Schmidt Support Staff, (b)(6)

this is an extraordinary piece of writing; he is so convincing

Super impressed you know him

On Aug 28, 2019, at 2:33 PM, Yll Bajraktari <(b) (6)> wrote:

Dear Sirs,

The author is helping us with the Ethics Special Project. (b) (5)
He shared with us the article beforehand and was kind enough to do a shout out to the NSCAI (your article in the War on the Rocks).

<https://www.nytimes.com/2019/08/28/opinion/military-war-tech-us.html>

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