Remembering Andy Marshall

Essays by His Friends

For Jaymie Durnan and Rebecca Bash

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Preface

The idea for this book came, like many ideas in my life, from Andy Marshall. Many years ago, I came across a marvelous book about Nathan Leites—a short collection of essays about him by about a dozen of his RAND colleagues and a few others who had known him well. While I had learned a lot about Leites from his own writings, this book gave me a much richer, more complete picture of Nathan Leites as a person, and helped me to understand, at least a little, the kind of contribution he had made to RAND over the course of his career. The book, *Remembering Nathan Leites—An Appreciation,* had been conceived and edited by Andy Marshall and Charlie Wolf not long after Leites's death in 1987.

When Andy died in 2019, I shared some excerpts from the Leites books with a few of Andy's friends, and I was delighted when virtually all of them agreed to write short pieces about Andy as they knew him. I never thought to ask Andy how he organized the book about Leites, but for this, I have taken a bottom-up approach to the book—the authors have just written whatever they felt like writing, on whatever aspect of Andy's character was most interesting to them, and at more or less whatever length they needed. In taking this approach we have missed some things that a more orderly approach might have provided: there is no essay about Andy and the summer studies, for example, and very little about his time at RAND—25 years of his life, and a career by many standards, that is not included here. Maybe we can add those essays in a second edition. Balanced against this, the contributors have come up with essays and stories I would never have

imagined, and that I have read with delight. I learned a tremendous amount about Andy in the course of reading these, and I hope every other reader has the same joy, and can learn at least a little about the kind of man Andy was, and the kind of contribution he made to all those around him.

Andrew May
May 2020

Part One

Remarks from Andy Marshall's Memorial Service

April 24, 2019

Paul Selva
Andrew May
Lionel Tiger
Melissa Hathaway

Andy Marshall on his last day at the Office of Net Assessment, honored by some of those who loved him.

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Memorial Tribute

Paul Selva

Well, thank you for the short introduction, because I hate the long one. And I'm acutely aware that Dr. Roche will critique my comments when I'm done, because that's what happened when I worked in the Office of Net Assessment.

I was prepared by my speechwriter to talk about the early years of Andy Marshall's career, but I'm going to break with the script and I'm not going to do that. Because you all know that story: he was with us from 1949 until just a few years ago and he served in the ONA from 1973 until most of us were ready to retire. And he was an extraordinary intellect.

But I think universally among all of us we would say he was quite probably the kindest person we've ever met. And that kindness was afforded to every person who came in the office.

He was also quite possibly the quietest person that I've ever met, and I want to use that theme for a few minutes. He used to say that he'd rather have decent analysis in response to the right set of questions than extraordinary analysis for a mediocre question. But it was really hard to get him to actually *ask* the question.

The first time I met Andy, I was a lieutenant colonel, and it is true that Secretary Roche was probably guilty of causing me to be in that office that day. There were eight of us; we were the Secretary of Defense's Strategic Studies Group, and as I recall, Dmitry was in the room, and David was in the room, and Rebecca was probably somewhere in the office. And he brought eight of us in and sat us down and he sat at the end of the table. And we were there for an hour. We

were there to receive our assignment for a yearlong research project, and I recall to this instant that Andy spoke exactly one sentence. What he said was: "Please be relentlessly skeptical and get the questions right."

I didn't know at that time how extraordinary that quiet voice at the end of the table actually was. It was over the course the next three years that I got pretty close to him. Chuck Miller and a host of others are responsible for sponsoring me into the office. I was told when I came in for my interview that I should respect when Mr. Marshall is thinking.

I told the story not long ago on a podcast with Vago Muradian and Bob Work and a couple of others, so some of you may have heard it before:

I walked in for that interview, which was scheduled for fifteen minutes, and he said, "it's good to see you again. I understand you want to come work here." And I said, "yes, Sir, I'm quite interested."

And you know the coffee table that was in that disheveled office full of papers—you and I could never find anything in there. He reached over to the coffee table and he picked up a document and started leafing through it.

And leafing through it.

And leafing through it.

At the end of the fifteen minutes—which seemed like fifteen hours—he looked up and smiled at me and he said "I think this'll work out okay."

It is to this day the most extraordinary interview I have ever had.

For those of you who prepared him for that interview, I am deeply in your debt, because what happened over the next two years is what all of you have experienced: that kindness, that willingness to share. When Lieutenant Colonel Selva and Ricki Selva were contemplating a trip to France, one of his favorite places, he broke open for almost an hour and recommended all sorts of places where Ricki and I might go. And attentive to the fact that she was a quilter, because I always have one of her quilts on my office wall, he suggested a particular cathedral where she might be interested in the mosaics on the floor. He was that attentive to every detail of every conversation even though we all think of him as the quiet one.

I'll close with the following: during that very same podcast, Tom Ehrhard said that when he was notified of Andy's passing, he felt like something in this world was gone. And I actually had a different reaction. My reaction was about his quietness; his view that he should never be the center of attention. Somewhere he's looking down on us and saying, "why are you videotaping today? Because I would never want to be the center of attention."

But because he chose not to be, he was an incredibly powerful voice in our Department. Because he chose *not* to be the center of attention, when he spoke, his words were valuable. Fourteen Secretaries of Defense listened to Andy Marshall's advice. Hundreds of us learned from him. That relentless skepticism isn't a negative trait; it's actually a journey. It's a pathway to success.

And so, what Tom Ehrhard said that night was, "his voice has been silenced." And I agree, but I also disagree. Tom and I agree on this point: we all have part of Andy's voice. His voice is in all of us. We can listen quietly to Andy's advice. But we can all stand up and echo who Andy was, and who Andy is. Because Andy is here, in every single one of us.

We learned at his side: to be kind. To listen. To question when questioning is valuable. To praise when praise is due. And to encourage when encouragement is necessary. Because it is in that genuine kindness, in that quiet listening man, that Andy Marshall touched all of us.

And so I think it's our job to echo Andy's voice, and to make sure that voice is always heard across this nation, for people who will never know what Andy Marshall did; because his secretive work in the Office of Net Assessment was about more than just teaching people to *be* strategists, it was about giving us the courage to practice the art.

And so, for that, I'm incredibly indebted to that quiet man who made me sit there for fifteen minutes and wonder whether or not I would be summarily dismissed or invited into the family. And I am incredibly grateful that Andy invited me into this family.

Thank you all.

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Memorial Tribute

Andrew May

Before I get started on my comments about Andy, I'd like to take a minute of my allotted ten to thank two people who Jaymie didn't get a chance to thank—and it's Jaymie, and it's Rebecca Bash. I just want to say that they more than anybody were Andy's children, and I hope for everyone in this room that when your days are coming to an end you have someone in your life as dedicated to you as they were to him, and I hope for myself that if I ever have to play the role for someone else that they had to play for Andy that I can do it with one half the grace and the dedication and the love they showed to Andy. Jaymie and Rebecca, you're just a marvel. So thank you.

I really struggled with how to talk about Andy because he meant a lot to me in a lot of ways, and he meant a lot to you all in other ways, and so I thought what I would do is turn to what Andy had done and learn from two memorial services that I saw him approach for people he loved; his first wife, Mary Marshall, and his second wife, Ann Smith.

I'll talk about Mary's first. Mary's was a large event, not formal but not informal, held down at the Army Navy Club downtown. Andy's old friend, and Mary's old friend, Jim Schlesinger gave the comments. He led off by saying when he'd talked with Andy and said, "look, there are two ways we can do this: I can talk about all the wonderful things about Mary—and she was a wonderful person and there are lots of wonderful things to say—or I can talk about Mary as she really was." And Andy said, "well, let's talk about her as she really was."

Mary was not always an easy person. She was very bright, and she was beautiful, and she loved Andy—but she was not an easy person. This is a person Bill Kaufmann referred to as "Gunboat Mary."

And Jim, who was a very skillful speaker and a very loving man in his own right, used all his skill and his talent to describe both sides of Mary, and to make it clear that she was wonderful person with many wonderful attributes, but also to make it clear that she could be prickly, and could speak her mind, and that if she thought you were pretentious, she was going to knock you down as far and as fast as she possibly could.

In that spirit, I think we ought to talk about Andy as he really was. I say this in part because there have been some wonderful things written about him in the past months, and some wonderful obituaries and some wonderful appreciations, but we're starting to get a picture of a man who was not a man. And this is one of the reasons that he didn't like the whole Yoda thing; he said that this discourages the notion that regular people can do this. It makes it out that you've got to be some kind of different species to engage in the kind of work that Andy engaged in. And he wanted to discourage that notion and encourage the idea that regular people can do this. This is a job that you can do.

So I think we ought to talk about Andy as a full person, and he was all the things that those obituaries have said. He was a visionary, and a genius, and a friend, and I loved him—but he wasn't always easy either.

First, he had his foibles, like any man. He had that blue hat that he would wear all the time, and he was not, as General Selva noted, always very good at throwing things away. Jaymie called me when he was trying to clear out the apartment, and I picked up the phone and he said, "how many pairs of scissors does one man need?" And he was compulsively early, and we all have stories of getting to meetings preposterously early. I think Steve Rosen wins the prize for once getting somewhere twenty-four hours in advance of the meeting.

But these are foibles. This is not being not easy. What I want to talk about is genuinely not easy. What I really want to talk about is the extraordinarily high standards he had for the people working for him and for the work they were going to do for him.

He really wanted work to be excellent across the board. He wanted work that had data, to have structure, and to have grit. He wanted that work to be well written and carefully thought through. Most of all, he wanted work that was original, that reflected the analytic courage to say something new about important problems. He wanted analysts to engage in informed speculation, and bring themselves to really bring some fresh thinking to the problem.
And I'll say, he was willing to express his disappointment when people fell short, and he could really be a harsh judge. Especially if he thought the work had been done sloppily, or too quickly, or was too shallow, he had this wonderful way of dismissing months of your work as "weak."

We've all had that feeling of being there and knowing that we'd fallen short. One of the great privileges of my professional life was getting to spend many years with him in that conference room, watching him guide work and receive work that had been done for him. And I'll tell you, he could really let some people have it when he thought they'd done a bad job and that better work was required.

And disappointment from him, even though you knew you were likely to get it, still hurt even more than it did coming from anyone else. From nobody else—not my parents, not any other boss, not any other client—did disappointment ever really cut so deep.

So one of the things I've been trying to understand is, Why? Why is that, on the one hand you knew you were going to get it, and on the other hand it really hurt?

And that's where I want to come around to the other memorial service, the one he had for Ann. Ann's memorial service was in Alexandria, a much different kind of event. Smaller, more informal, in the basement of a restaurant down in Alexandria.

It was a nice ceremony, and several people spoke, including Jackie Deal, people who had known Ann throughout her life and who talked mostly about her professional career, and the wonderful accomplishments she had. And she was an incredibly accomplished businesswoman at a time when not a lot of women were achieving a lot in business.

Then it was Andy's turn to speak; he spoke last. He said well, yes, all those things were true, she accomplished all this and she did all

this, but to him what was remarkable about her was that she was just the sweetest, kindest, most loving person he had ever known.

And that was Andy. The reason he had high standards, and the reason we so wanted to meet those standards, comes back to the love that Andy had. Partly it was love he had for the United States: I mean, he wanted us to do good work not because we were selling shoes, and not because we were trying to make him famous, but because the work we were doing was important to the security of the United States; it was the country he'd dedicated his life to serving and he thought it deserved only the best.

It was his love of analytic discovery that made him such a pleasure to work for. He did not say "good job" very often. But what you got, if you did a good job, was that you got to *see* him love your work. And you could see it in his eyes, and you could see it in his face, and he would share with you, while you were there, how your work began to change thinking, and began to fit into a different vision, a different understanding of the world, and a different vision of the future, that suddenly you could share with him, and that your work was contributing to. That was a high that was unlike anything else. And it was a sustaining high: it was enough to sustain people through decades of work, when no one else cared what they were doing. In fact, if they cared at all, they hated it. Yet, people were willing to dedicate decades

of their lives to this kind of work, because of the experience of sharing it with one man, who could bring that kind of joy to analytic discovery.

But finally, it was the love he had for all of you. He chose every person in this room. He could have had anyone work for him that he wanted, to General Selva's comment, and he chose all of you, because he saw in you some capability, some talent, some contribution that you could make to the nation.

He would use all the tools of encouragement he had—sometimes praise, more often disappointment, sometimes patience—to draw out that capability, that talent, that contribution from you. What he wanted you to do was the very best you could, for the country and for your own sake as well, so that you could be part of the creation of new knowledge. Andy didn't care about anything else in your life. He didn't care if you were engulfed in scandal, and he didn't care if you couldn't dress, and he didn't care what anybody else thought of you. He loved you for the minds that you have, and for your commitment to this country. He loved you for who you are. It's the best kind of love there is.

I look at this room, and it's an incredibly diverse and accomplished group. And you're patriotic, and you're gifted thinkers, and you've all come to honor Andy's memory and his contribution. It's this group that is really the hallmark of Andy's love.

The last thing I'll say is that after he retired, and he no longer had pots of contract money to give out, and he no longer had any influence inside government, frankly I wondered what would happen. And some parts of Andy's retirement didn't work out the way he wanted, but the part that did was that you all came back. You all came to see him. You came to see him to seek his approval, and to seek his affection, and to tell him that you loved him. And he loved you all back. It was a wonderful thing to see. It was one of the great pleasures of my life. And so we'll all miss Andy very much.

Thank you.

Andy Marshall, Lionel Tiger, and generations of ONA.

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Memorial Tribute

Lionel Tiger

We meet in sorrow around a grimly normal event—someone we love dies. Everyone wants to say something, hear something, share something old, crave something—anything—new and restorative. I can add only one modest surprise—to note simply that because the data drove him, Andy was provoked by primatology in its broadest sense. He always wanted to know what was known about the evolution of human behavior in the past as he confronted his mighty modern task of anticipating and preventing warfare in the present and next month and the next decades too.

We know for sure this interest flourished in his convivial encounters with Secretary James Schlesinger, who was, among other related matters, fascinated by territoriality among birds and how even bird brains created complicated communities. Andy was also stubbornly familiar with the work of Robert Ardrey, who articulated the still-unfashionable possibility that *Homo sapiens* was not only sapient but on too-frequent occasions plenty violent too. Was this unseemly violence mainly the result of specific local issues and grievances? Or was there something more common, more generic, more secular, more recurrent here?

And for Andy, this interest was broad, foundational, atmospheric. Not a religion, not a political anthem, not a partisan omelette. It generated no membership requirement other than a wait-and-watch openness to an exciting potentially disturbing branch of science.

Surprisingly, this almost fiercely parsimonious stance was readily understandable to his opposite numbers in enemy camps. They could

follow his thought whatever the cut of their jib or their uniform. His utterly remarkable international following and reputation—and even unusual affection—derived from *the readability of what he did to his fellow strategists* also charged with responsibility for comprehending the human zoo and planning for unexpected traffic in its midst and especially at its borders.

When I had to prepare these remarks, I realized I've been involved with Andy's intellectual community for decades even though I've no military experience. I recall receiving a mysterious invitation decades ago to a conference at RAND about missile strategy, about which I knew nothing of consequence. However, I was graciously given a lift to somewhere by Mike Pillsbury and heard Graham Allison among others offer (to me new) baffling comments about really bad and dangerous things that people did. A few years ago, I asked Andy why he had involved me for so long in his activities. Simply, he said, "I read your books." Indeed, I had published in l969 *Men in Groups,* which developed the idea of male bonding and suggested the broad and still-persistently influential impact of sex differences. And in l971, Robin Fox and I published *The Imperial Animal,* which was a tour of broad and endlessly recurrent elements of human social behavior.

This may have been key for Andy. These recurrent elements Fox and I claimed were *more likely to be the causes of human behavior than their effects.*

The parsimonious efficiency of this approach appeared to recommend itself to Andy. We had simply and prudently to know about these basic and recurrent patterns and anticipate them. They were implacably likely to recur. Behavioral skills that had served us well once upon a time in prehistory and history remained encoded however imprecisely in our genes, so it was good to know about them. I recall an illustrative classic vignette. The primatologist George Schaller embarked on a study of the mountain gorillas in their native African forest. These very large and opinionated animals were considered dangerous, and Schaller was advised to carry a weapon. He didn't. But he observed carefully. One day on a narrow path he encountered a very large and irritated dominant male who could have killed him. But Schaller had observed that when powerful gorillas

did not want to fight, they shook their heads rapidly side to side. This Schaller did, and so did the gorilla, and they both fled. Schaller's knowledge of the gorilla's natural behavior saved both his life and one of the greatest of primate studies. Knowledge was his weapon and his reward.

The profoundly and quietly secular approach of evolutionary primatology was one of the tacit but ambient sources of intellectual freedom that atmospherically affected Andy's intellectual life for decades. Let me suggest that a subtle but pervasive effect of Andy's cross-cultural zookeeper's stance was that his opposite-number opponents could understand him readily. They understood what he was getting at and how and why. Bear in mind that, astonishingly, they admired the master-guru of their most frightening enemy.

What a gift to the United States!

Irritatingly, he could anticipate their efforts to confect strategic tricks they thought were so clever. He could identify their illusions and worse, their self-delusions. Nevertheless, they even celebrated him when they could with decorous signs of implicit admiration. They intuited or even knew that he spoke a universal language about the real issues they shared. Keepers of the human zoo appreciated that his description of the issues they shared was practical, real, and necessary.

He spoke quietly but the quality of his thought was its own megaphone.

Enemy—listen up.

Andy Marshall and Melissa Hathaway in the kitchen.

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Memorial Tribute

Melissa Hathaway

Andy Marshall was my friend and mentor—and kindred spirit. He recognized the rare beauty and pleasure in cooking and preparing simple foods well. If done right, it makes all five senses come alive. Our dinners embodied a rare blend of personal insight, historical context, and storytelling. We shared a deeply personal offering of attention, generosity, and love when it came to cooking together. Food was the essence of soul-nourishing companionship. I call it "Love on a Plate." We welcomed friends into our homes with genuine and generous hospitality—and we gave them a rare insight into our passion (outside of national security issues). Today, I want to give you a rare view of Andy "behind the scenes."

1. Andy was a *self-taught* cook.
2. He *curated* ideas by reading cookbooks and magazines.
3. Andy *experimented* in the kitchen, and was *inspired* by learning from great chefs.
4. He was *curious* about spice and was *devoted* to expressing his character and curiosity by way of food.
5. His thoughtfulness, *attention to detail,* and clarity of mind were the same whether in the kitchen or at the office.

Garlic. Chez L'Amis Louis (Taste)

Our first dinner was inspired by Antoine Magnin, a gruff but genius chef who was the proprietor of a small, simple bistro—Chez L'Ami Louis. The bistro seems quite ordinary if you were to walk by it. It has a drab doorway with smoky windows, semi-swathed in

red-checked curtains and a museum-like interior. It is located in the 4th arrondissement of Paris.

When Andy walked into the restaurant, he could smell the smoky richness of a wood-fire stove blanketed in butter and duck fat. He noted the square tables that lined the center isles—dressed in salmon pink linens.

Andy found this place with Charlie Hitch (a fellow foodie)—while they were in France working a RAND project for NATO in the winter of 1956.

One night, Andy and Mary and Charlie and his wife dined there and had a Hollywood moment. Seated at the table next to them were Darryl Zanuck and the French singer Juliet Greco. Zanuck was filming "The Sun Also Rises" (starring Errol Flynn and Ava Gardner). Greco was famous not just for her voice, but for the company she kept. She was Miles Davis's lover, Orson Welles's drinking partner, Jean-Paul Sartre's muse, and at that time was reported to be Zanuck's mistress. (Oh my.)

But Andy was more interested in the tiny, cramped kitchen that was hidden behind the telephone booth and the sous-chef prep area—the FOOD. One of Andy's favorite dishes at Chez Louis was duck confit with potatoes and garlic.

This was the first meal that we cooked together: *Roasted confit de canard* (duck cooked in its own fat). Yum. Andy taught me how to cook the duck to perfection like a gold-leaf centerpiece you would see on the cover of *Food and Wine* magazine. It's salty, aromatic drippings add flavor to the crisp, crusty, cake-like sliced potatoes that are also cooked in the duck's fat (potatoes in the style of Quercy). You should not pay attention to the cookbook's instructions estimating three hours to prepare the potatoes. Actually, it takes about thirty minutes. You have to be taught how to make this dish—learn by doing, not by reading. (One of my first lessons from Andy.) The potatoes are served with two *heads of chopped, raw garlic* and a lot of parsley. For an American, it might overwhelm the palette. To this, Andy would say, *Americans are cowards with respect to garlic.* Andy loved garlic.

After Andy's six-month tour for RAND (in Paris), he and Mary had planned to spend six weeks touring the French countryside, but Nasser's decision to nationalize the Suez Canal (July 1956) caused

their plans to change. More than two-thirds of the oil used by Europe flowed through this strategic waterway—making their plans to travel by car through France unaffordable.

But not to worry; they stayed in Paris and took French classes at the Sorbonne and cooking classes at the Cordon Bleu. Andy and Mary took their classes at the original Palais Royal establishment. It was the first school to organize demonstrations during which a chef cooked dishes and gave the participants a chance to sample each one. On the following days, students prepared the same dishes in practical classes themselves. Andy and Mary learned French cuisine from French chefs "at the source" and had the opportunity to see Julia Child in action—and they befriended Richard Olney, the famous author of cookbooks.

Olney, a U.S. midwesterner (Iowa) had a passion for traditional classic French food and wine. Andy was an avid reader of Olney's column entitled *Un Américain (gourmand) à Paris* for the journal *Cuisine et Vins de France* (which began in 1962). Olney was a self-taught cook and captured his deep insights in many famous cookbooks. Andy was inspired by Olney's attitude that food is and should be *life's simple pleasure*—fresh ingredients, a good pot, and attention to detail. Time in the kitchen is and was cathartic.

Herbes de Provence Richard Olney. (Smell)

In 1962 Mary and Andy returned to France. They took a tour of the chateaus in eastern France (Dijon and southward) and spent ten days at Richard Olney's home in Provence.

Of course, Andy and Mary took an expeditionary route to explore history on their way to Olney's house. First, stop to see the origins of King Arthur—Avallon in Burgundy. You will also see the remnants of Roman occupation—from Minerva, to two pink marble columns in the church of Saint-Martin du Bourg, and the Roman citadel that overlooks the Cousin valley.

A little farther east toward Dijon is Bernard of Clairvaux's abbey. He was famous for preaching/advocating for a Second Crusade—but, more important, you can trace the origins of the Knights Templar to this town.

When they arrived at Olney's house, they were struck by the hillside's breathtaking beauty—like a French impressionist's palette: blues and violets of flowering wild thyme, punctuated by bushes of wild rosemary. The house was surrounded by olive trees, and the air was perfumed with herbs de Provence. Herbs de Provence: A fragrant herb mixture, a chef's perfume, consisting of rosemary, fennel, savory, thyme, basil, marjoram, lavender flowers, parsley, oregano, and tarragon.

Andy's most favorite dish from this region (time with Olney) was Provençal chicken pilaf. Andy would make the dish a couple of times each year and remarked that it's a great dish for creating leftovers. This has become my go-to dish for dinner parties—and one of my favorite cooking experiences with Andy.

I fell in love with this dish in April of 2016. Some people might call this a one-pot dish. And while part of that is true—Andy's ensured that I understood that it is a multistage dish that requires attention to detail and a *careful eye on the clock*. The chicken is practically deep fried in olive oil—and if done correctly, obtains a golden crispy, crust. Each ingredient is added at specific increments for the next two hours. The dish is finished with herbs de Provence—extra oregano flowers, a "good portion of saffron"—and Niçoise olives to give it some kick. This dish is the essence of Olney's yard (olfactory and savory). The food, memories, landscape, all melt into your palette and leave a lasting impression and yearning for more. No wonder, Andy respected Olney and worked diligently over the next sixty years to replicate his skills in the kitchen.

Olney wished to teach us how cooking could be a path to well-being, a blessed pagan state of sensual, aesthetic, and intellectual fulfillment. I think that this is when Andy truly developed his passion and respect for Simple French Food.

The Comfort of Home (Lamb)

Andy and I made many meals together—but when he needed comfort—and the taste of "mom," he turned to lamb. While growing up in Detroit, lamb was served to Andy more often than beef. His mother would often serve roast leg of lamb—especially on Sundays.

Andy searched for restaurants that prepared lamb well. While living in Paris, the restaurant Chez George was one of the only restaurants open on Sunday. It had a menu to satisfy the soul and attracted a regular, faithful following of disciples for decades—lamb was prominent on its menu. It was located next to the beautiful *Place des Victoires,* and is barely visible with its door hidden behind white linen cloth. Another treasure that Andy discovered, seeking soul-nourishing food—a taste of "mom."

Andy taught me how to prepare leg of lamb. First, you must stud the leg with garlic cloves—like a checkerboard. Andy liked his lamb rare—not pink, but bloody. He also liked the meat shaved paper thin, cut across the grain like Lebanese shawarma. If you achieve this, then you get Andy's mark of approval. Trust me, this is hard.

Note: Andy was still giving me directions to this restaurant in his last days of life. Remember—Avenue de la Grande Armée (one place west of Etoille). Be sure to order the Giant Eclair or tarte Tatin (an apple tarte with a large help-yourself bowl of crème fraîche).

Andy also loved lamb stew and frequented Les Grand Véfour along the Palais Royal for Chef Raymond Olivier's creation of the dish. The restaurant has been in business for centuries—one of Paris's original restaurants. It was frequented by Napoleon and Josephine as well as by Victor Hugo and Colette.

Andy's creation of this dish was unique because it had fennel seeds, herbs de Provence, and bay leaves. Andy preferred the dish with white beans—creating a unique combination of spices and proteins. This dish takes hours to cook. My advice is don't fall asleep.

Chocolate Kisses

My final story is about chocolate. Everyone who knew Andy also knew that he loved chocolate—especially dark chocolate. Chocolate does contain a number of compounds associated with mood-lifting chemicals in the brain. It is a natural antidepressant and facilitates a chemical reaction similar to falling in love.

Andy's favorite chocolatier was in Brussels, Belgium—Mary Chocolatier. Mary Delluc's story is that of an artist and gourmet, a true pioneer driven by inexhaustible creativity. She was passionate

about working with chocolate and opened her first shop on rue Royale in Brussels in 1919. Mary's chocolates are little jewels.

I frequented Brussels often, and I, too, am a chocoholic. I would often bring Andy dark chocolate from Europe—but especially, from Mary's.

One of Andy's last requests of me was to bring him my chocolate pudding—pot de crème. Days before Andy passed away, we had our last conversation together. I had the opportunity to feed him my chocolate pudding. We knew that it was soul nourishing—and one of his last moments of true enjoyment—*love on a plate*. He could smell the smoky texture of the chocolate, that woke up his senses… with each mouthwatering spoonful, he could taste the sweet sense of happiness—and afterward enjoy the simple touch and taste of a chocolate kiss.

Simple, sensual food—our indelible mark—truly joie de vivre.

This was the special side of the Andy I knew.

Part Two

Essays

Barry Watts

Aaron Friedberg

Mie Augier

Abram Shulsky

Chip Pickett

Stephen Rosen

Dmitry Ponomareff

Andrew Krepinevich

Graham Allison

Jim Powell

Nicholas Eberstadt

Anna Simons

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Learning from Andy

Barry D. Watts

I first met Mr. Marshall on a sultry August day in 1977. The occasion was a job interview with Andy in his Pentagon office. One of the more difficult analytic conundrums that had cropped up in Marshall's efforts to assess the military balance between the North Atlantic Treaty Organization (NATO) and the Warsaw Pact (WP) was how to factor in the contributions of NATO air power to the likely course and outcome of a conventional conflict in central Europe. This problem, which the Office of Net Assessment (ONA) never completely solved, had led Andy to look for pilots he could add to his small staff.

At the time I was assigned to the Air Force Academy in Colorado Springs. In 1974 I had joined Colonel Malham M. Wakin's Department of Philosophy and Fine Arts, where I had mostly taught a mathematical logic course required for computer science majors. By the beginning of the 1977–1978 academic year, I was still teaching but was officially the Air Officer Commanding of a cadet squadron.

Marshall's request that I come to Washington for a job interview was instigated by Colonel Lee D. Badgett, who then headed the Air Force Academy's economics department. Badgett had briefly worked for Andy on the problem of estimating how much of the Soviet Union's gross national product (GNP) was being consumed by various military and military-related programs, including the cost of maintaining the USSR's external empire. So, when Andy started looking for pilots to hire, he naturally asked Badgett for suggestions and Badgett encouraged me to consider the opportunity, which I did.

I ended up joining Marshall's office in February 1978. I initially worked with Richard Nelson on the military balance on the Korean peninsula. I stayed in ONA until 1981, when I left to join the Air Staff's Project Checkmate, replacing (then major, later general) Pat Gamble as the lead Soviet air analyst. I stayed in Checkmate until 1985 when, to my surprise, Andy hired me again, this time to work on the NATO-WP balance. I left ONA and retired from the Air Force in March 1986. I was immediately brought on board the Northrop Corporation's Washington-based Analysis Center by James G. Roche, with whom I had overlapped for a year or so during my first tour in ONA.

Through 2001 the B-2 and Advanced Tactical Fighter programs consumed much of my time and energy at the Analysis Center. Nevertheless, I continued to interact with Andy and ONA, especially on his office's efforts in the early 1990s to get the U.S. military services thinking about the implications of the emerging revolution in military affairs (RMA) stemming from the integration of precision-guided weapons and wide-area sensors with automated command-and-control systems. Later, after I had briefly served as the Pentagon's director of Program Analysis and Evaluation during 2001–2002, I joined the Center for Strategic and Budgetary Assessments (CSBA), a Washington think tank run by Andrew F. Krepinevich. Krepinevich, of course, had written ONA's preliminary assessment of the RMA and by 2002 CSBA was doing various Andy-directed studies, workshops, and war games for ONA. Over more than a decade at CSBA I conducted a wide-ranging series of studies, analyses, and seminars for Andy. Topics ranged from the role of ONA in post-Cold War era to the evolving precision-strike regime, trends in nuclear weapons, military strategy, the intellectual history of ONA, and analytic measures. Thus, I had ample opportunities over the years to learn from Andy. I saw him as mentor, and in this context it's relevant to recall that he himself judged his major achievement as the Pentagon's Director of Net Assessment to have been the influence he had on the thinking of the people who had served on his staff.

What did I learn from Andy? Three things immediately come to mind: the role of diagnostic net assessment as the first step in developing sound strategies; the importance of understanding the

opponent; and Andy's relentless focus on the truly first-order questions affecting American national security.

Net Assessment's Role in Strategy

In 2007 Mr. Marshall asked me to run a seminar on strategy. The immediate impetus for this project was Peter D. Feaver. Feaver's recent experience on the National Security Council (NSC), he told Andy when he left the NSC in 2007, was that all his attempts to get people there thinking seriously about strategy invariably defaulted in short order to the question of what to do next in Iraq. Reinforcing Feaver's concern about American strategic competence was the strong suspicion that the ability of the U.S. national-security establishment to craft and implement effective long-term strategies against intelligent adversaries at acceptable costs had been declining for decades.

The strategy seminar took place at CSBA's Washington offices in September 2007. The lone out-of-town participant was the business strategy guru Richard P. Rumelt from the Anderson School of Management at UCLA. (Feaver was invited but was unable to attend.) Andy and Rumelt had been discussing strategy ever since Marshall had shown Rumelt the 1976 strategy paper for competing with the Soviets that he had written with Jim Roche. During the seminar Rumelt characterized strategy in competitive situations as "a heuristic solution to a problem," adding that in such situations, strategy is "usually an insight that creates or exploits a decisive asymmetry."

An obvious question was: where do decisive asymmetries come from? The answer can be found in the three essential elements of good strategies Rumelt enumerated in his 2011 book. The first element is a diagnosis that defines or explains the nature of the strategic challenge by simplifying the overwhelming complexity of reality and, hopefully, uncovering decisive asymmetries. Rumelt's second element, which usually requires insight, is to develop a guiding policy for dealing with the challenge. Finally, a set of coherent actions must be devised and executed (the hardest part) to implement the guiding policy over time.

Cold War containment of the Union of Soviet Socialist Republics (USSR) provides a concrete example of these three elements of good strategies. George F. Kennan's 1946 long telegram from the Moscow

embassy on U.S.-Soviet relations and his 1947 *Foreign Affairs* article on the sources of Soviet power constituted an extensive diagnosis of the challenge posed by the Soviet Union after World War II. If Kennan was right that Soviet power not only contained the seeds of its own decay but that the sprouting of those seeds was well advanced, then a guiding policy of the firm containment of Soviet power logically followed. As for implementing actions, they ranged from the creation of Strategic Air Command and NATO to the Marshall Plan to aid European recovery, the American decision to save South Korea from a communist takeover, Truman's decision to develop the H-bomb, concepts such as massive retaliation and mutual assured destruction, and Nixon's normalization of relations with China.

What I learned during the 2000s from discussing this view of good strategy with Andy was why he never let ONA become a strategy shop. In Rumelt's framework, net assessment was about accurately perceiving the nature of a strategic problem—simplifying the situation enough to see the decisive asymmetries that could be exploited over time to achieve one's goals. As Andy had recognized as early as 1972, the output of net assessment was never to recommend weapons, force levels, or force structures. It took me a long time to fully appreciate the wisdom of this stricture.

There is one other point Andy always emphasized about strategy: its uncertainty. Even the best strategies do not come with guarantees of ultimate success. The reasons are evident in the definition of strategy that emerged in conjunction with the 2007 strategy seminar. Good strategies, Krepinevich and I came to believe, are fundamentally about identifying or creating asymmetric advantages that can be exploited to achieve one's ultimate objectives despite resource and other constraints, most importantly the opposing efforts of the other side and the inherent unpredictability of outcomes. The second half of this definition highlights two facts: that resources are always limited relative to our wants and that the enemy always has a vote. Hence the need to continuously adapt the implementation of one's strategy or even adopt a new one, which is what Ronald Reagan did when he shifted from containment to trying to defeat the USSR.

Understanding the Enemy

A second thing Andy taught me over the years was the crucial importance of understanding the opponent. The instinctive default for all too many Americans has been to assume that the adversary's thinking and motivations are a mirror image of our own. This had rarely, if ever, been true. It was not even true during America's Revolutionary War. Robert L. O'Connell's 2019 *Revolutionary: George Washington at War* reveals that the rebellious colonists believed Britain's aim was to literally enslave them. In reality, the British simply sought to extract enough wealth from the American colonies for them to shoulder their share of the burden of maintaining the British empire that emerged from the Seven Years War (1756–1763). If O'Connell is right, the American Revolution was predicated on a conspiracy theory.

During the Cold War a major concern of Andy and ONA was to understand Soviet assessments, particularly those affecting the strategic-nuclear balance. The effort to do so had its roots in Andy's collaboration at RAND with Joseph E. Loftus in the late 1950s and early 1960s on the problem of making better projections of the Soviets' future nuclear force posture. The framework most analysts assumed in making such projections was that of a single, monolithic, fully informed, supremely rational decision maker. In reality, however, Soviet decisions about nuclear forces were not made by a single supremely rational decision maker but by a collection of political-military organizations, each with its own agenda and influence within the Soviet bureaucracy. Furthermore, the choices the Soviet bureaucracy made were seldom optimal. As Herbert Simon pointed out, limitations on the data and computations that full-blown optimization requires argue that human rationality is *bounded*; decision makers can adapt well enough to "satisfice" but they do not, in general, optimize. Thus, Andy's interest in understanding Soviet decision making can be traced back to his early days at RAND. And by the late 1960s he had concluded that decision processes in the Soviet military-industrial complex were best understood as an intermittently disrupted collection of loosely coupled problem-solving clusters in which many design and deployment choices were made several echelons down in the Soviet hierarchy.

A decade or so later, when ONA sent its first U.S.-Soviet strategic-nuclear balance to defense secretary Harold Brown in 1977, Andy's view was that we still didn't understand the objectives of Soviet leaders or their perspectives on the long-term political-military competition between the two superpowers. Arguably, we did not accurately understand Soviet goals, intentions, metrics, and calculations until, at the Cold War's end, John Hines began interviewing Soviet General Staff officers such as Marshal Sergei F. Akhromeev, General-Colonel Adrian A. Danlievich, and General Makhmut A. Gareev. In the meantime, though, Andy pursued a variety of avenues in his effort to learn all he could about Soviet assessments. He brought Sovietologists such as Dennis Ross, William Manthorpe, and John Hines into ONA as members of his staff. Unlike much of the American intelligence community, he paid attention to Russian emigres, especially to the economist Igor Birman's views on the size of the Soviet economy. Marshall also drew on prominent Sovietologists both inside and outside the U.S. government, including, to name a few, Peter Reddaway, Mary C. Fitzgerald, Notra Trulock, Gordon Negus, Laurence K. Gershwin, Allan Rehm, and Lieutenant General William E. Odom. And he funded translations and analyses of Soviet military writings by John Battilega's group at Science Applications International Corporation's Foreign Systems Research Center (FSRC) over and above those provided by the Foreign Broadcast Information Service.

My own involvement in all this stemmed from the comparative analysis of Soviet Combat Potential (CP) scores for tactical aircraft with those developed by The Analytic Sciences Corporation (TASC). Soon after joining ONA in 1978 Andy asked me to monitor TASC's effort to develop scores reflecting the "modernity" of various U.S. and Soviet fighters and strike aircraft. At the time I was deeply skeptical that the enterprise would yield anything useful. But when U.S. intelligence acquired Soviet CP scores for tactical aircraft and tanks in 1981, the inclination to compare TASC and CP scores proved irresistible. Doing so suggested that, in an air-to-air role, Soviet analysts scored NATO fighters such as the F-15C about 50 percent higher than we did, whereas they rated the F-15E only 2 percent better than we did in a strike role: in short, the Soviets judged territorial air defense

more valuable than strike. Given the disaster that befell the Red Air Force during the first week of Operation Barbarossa in June 1941, this perception was understandable. Still, it showed what were significant quantitative differences between U.S. and Soviet scoring metrics for individual weapon systems, and these differences undoubtedly affected Soviet views of conventional military competitions, starting with the NATO-WP balance in Europe. So, despite my misgivings about the subjective way in which the TASC scores were generated, they provided "Blue" scores that we could compare with "Red" ones.

As evidence of systemic differences between U.S. and Soviet assessments accumulated, Marshall concluded that Soviet assessments were structured altogether differently from U.S. and Western assessments. Soviet calculations, he wrote in a 1982 *Policy Sciences* article, made different assumptions about scenarios and objectives, focused attention on different variables, included both conventional and nuclear systems (as well as long-range and theater forces), performed different technical calculations, used different measures of effectiveness, and very likely employed different analytic processes and methods as well. What I eventually realized was how important an accurate Soviet assessment was to assessing ONA's Cold War balances. The U.S.-Soviet strategic-nuclear balance provides a case in point. In 1977 Richard Pipes published an article in *Commentary* entitled "Why the Soviet Union Thinks It Could Fight and Win a Nuclear War." Pipes's bottom line was so long as the Soviets viewed general nuclear war as feasible and winnable, mutual deterrence did not really exist and American refusal to take Soviet nuclear doctrine seriously was innately destabilizing. But as early as 1983, progress on understanding Soviet assessments led Marshall and Henry Rowen to conclude that American nuclear forces were adequate to deter Moscow from initiating nuclear war. This judgment was later confirmed by John Hines' interviews with Soviet General Staff officers who had become convinced by the late 1970s that nuclear use would be catastrophic, counterproductive, and to be avoided at all costs.

Andy's enduring interest in adversary assessments did not end when the Soviet Union collapsed. As early as 1987 he began worrying about the long-term challenge a rising China was likely to pose to the United States. This concern led Andy to begin funding efforts

to begin exploring the writings of the People's Liberation Army. To mention one example, ONA encouraged Battilega's FSRC to transition from translating and analyzing Russian military writings to translating and analyzing those of the PLA.

One further lesson I drew from Andy's emphasis on adversary assessments was an appreciation of just how poor American understanding of its adversaries had long been. This persistent American failing dates back at least to the Vietnam War. But two recent examples are Vladimir Putin's revanchist Russia and Xi Jinping's expansionist China. When the Cold War ended, most Western leaders and policymakers assumed the Russian public suddenly embraced Western values and ambitions. We failed to appreciate how bitterly resentful most Russians were about their nation's sudden, colossal loss of prestige, empire, and superpower status—all of which Putin has been working to recover at the expense of his Western rivals ever since he first became Russia's president in 2000. Similarly, despite the brutal suppression of protestors in Tiananmen Square in 1989, Western leaders continued to assume, wrongly, that aiding China's economic resurgence would eventually produce a more liberal, less authoritarian regime. This hope has proven woefully misguided. Under Xi Jinping, China remains a communist dictatorship that aspires not only to dominate the Indo-Pacific region by displacing American influence, but intends to become the world's leading economic and technological power. Far from understanding the goals and intentions of Putin's Russia and Xi Jinping's China, America's leaders have, to the West's growing peril, fundamentally and persistently misread both. Even more troubling is the success Russia and China have had in devising ways to undermine the West below the thresholds that would provoke a U.S. or NATO military response.

One further aspect of adversary assessments deserves mention. If the first element of good strategy is an insightful diagnosis of the nature of the strategic problem or challenge, then understanding the adversary is a pivotal part of that diagnosis. Hence the enduring value of net assessment as Andy has practiced it.

Asking the Big Questions

A third thing I learned from Andy over the years was the wisdom of maintaining a relentless focus on the big questions—the ones you need to ask again and again no matter how good you may think your previous answers were. The best example from the Cold War is the burden that Soviet military programs imposed on the USSR's economy. Andy's initial effort in 1970 to assess the overall military balance between the United States and the USSR led him to worry that America might be pricing itself out of the competition with the Soviets—or at least severely handicapping itself—due to the higher costs of U.S. weapon systems and peacetime operating practices. In other words, could we afford to hold up our side of the military competition in the long term?

During James R. Schlesinger's brief tenure in 1973 as the Director of Central Intelligence (DCI), this concern led DCI Schlesinger and Andy to ask the Central Intelligence Agency (CIA) for its estimate of the ratio between Soviet military expenditures and the USSR's gross national product. Based on two other findings, CIA's answer was around 6 percent. The two additional findings were estimates of total cost of Soviet military programs in dollars and the size of the Soviet economy. By 1973 the dollar cost of the USSR's military programs was somewhat greater than the cost of U.S. military programs, and the gap was estimated to grow in the years ahead. As for the USSR's GNP, CIA estimated it to be 50 to 55 percent of U.S. GNP. However, as Andy and Schlesinger pointed out, all three of these things could not be true at the same time. If you accepted CIA's dollar-cost estimates of Soviet military programs and the USSR's GNP, then the logical conclusion was that the USSR's military burden had to be at least double CIA's 6 percent.

Disagreement between Andy and CIA over the USSR's military burden continued through the end of the Cold War and beyond. CIA's official burden estimate never exceeded 15 to 17 percent of the USSR's economy. But as Andy pointed out in a 2001 letter to Thomas Reed, CIA's Cold War burden estimates had problems in both the numerator and the denominator. The numerator failed to include a variety of indirect costs: designing the Soviet fishing fleet and Baltic ferries to be able to support the Soviet navy in wartime; subsidies for

the Warsaw Pact and more distant parts of the Soviet empire such as Cuba; and the gigantic war reserve stocks the Soviets procured and maintained—stocks that were invisible to satellite reconnaissance. As for the denominator, by the early 1980s a number of Soviet emigres had convinced Andy that CIA's estimates of the USSR's GNP were greatly exaggerated. By the mid-1980s he and Charlie Wolf estimated that the USSR's GNP was, at most, 40 percent of U.S. GNP. As a result, Andy concluded that the USSR's military burden during the 1980s—if not the 1970s as well—had been in the range of 35 to 50 percent. Even 35 percent was a staggering, unsustainable diversion of the country's economic resources to military programs. And particularly after the explosion of reactor No. 4 at Chernobyl in 1986, Soviet leaders under Mikhail Gorbachev were driven to the conclusion that the Soviet Union could no longer afford to hold up its end of the long-term military competition with the United States.

In 1970 Andy had asked: Might the higher costs of U.S. weaponry and operating practices make it difficult to keep up with the Soviets in the long term? In the end the answer to this question turned on, among other things, the question of the USSR's military burden. These were the right questions to ask, and Andy's unflagging pursuit of the best possible (albeit always uncertain) answers to them illustrates his talent for focusing on the really big questions. These were the questions he raised time and again and was never completely satisfied with the answers he got. There was always more to learn and Andy was tireless in reopening big questions that I thought had been answered. The need to pursue ever-better answers to the tough questions is the most important thing I learned from the years I was privileged to work with and for Andrew Marshall.

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The 'Marshall Method' and the China Challenge

Aaron L. Friedberg

How did Andy Marshall do the things he did? How was he able, before most of his contemporaries, to identify key trends shaping the evolution of what he referred to as the "future security environment"? And how did he manage, over time, to guide the thinking of others, helping them eventually to recognize and respond to those developments?

I would like to reflect on these questions with reference to the rise of China, now widely acknowledged as the main strategic challenge confronting the United States. Andy was ahead of the curve on this issue, as on so many others. And here, as elsewhere, he worked diligently, over a period of more than twenty years, to try to focus the attention of an expert community and a defense establishment that were often preoccupied, sometimes indifferent, and at times openly hostile.

Andy's prescience was the product of four tendencies or predispositions, which were themselves a reflection of his unique and remarkable mix of intellectual qualities and personality traits: empiricism, intelligent speculation, open-mindedness, and persistence.

Empiricism

First and foremost, Andy was relentlessly empirical; he was interested in facts and data, in things that could be observed, tracked and, where possible, measured. Proceeding in this way could help to reveal the world as it actually was, rather than how theorists might

claim that it is or moralists might wish for it to be. Andy was trained in economics and statistics but, in contrast to many with a similar intellectual pedigree, he believed in the importance of "soft" as well as "hard" realities; he was interested in the perceptions, beliefs, and assessments of others (especially potential rivals) and in the deep and sometimes very different cultural and philosophical predispositions and modes of thought from which these derived. If the United States wanted to influence the behavior of foreign powers, affecting their policies in peacetime, deterring them in a crisis and, if necessary, defeating them in war, it needed to understand how their leaders thought. Mirror imaging, assuming that others must see things as we do, or simply postulating a universal form of rationality, were inadequate and potentially dangerous analytical shortcuts. Like many of Andy's core insights, this one seems obvious, once pointed out, but it is all too frequently forgotten.

Notwithstanding his interest in perceptions, Andy was, at root, a realist. He was concerned above all with assessing the distribution of material capabilities among nation states and identifying the economic trends and technological developments that could cause the balance of power to shift over time. In the late 1980s, in support of a presidentially mandated Commission on Integrated Long-Term Strategy, the Office of Net Assessment (ONA) sponsored work that sought to project the gross national products of fifteen countries out to 2010. Based on what turned out to be a conservative estimate of its actual performance, the study's authors nevertheless assessed that, within two decades, China could grow to become the world's second-largest economy, surpassing Japan and lagging behind only the United States.[1]

Anticipating that "current and recent policies of restraining military spending during a period of agricultural, industrial and technological modernization will be followed over the next two decades by a major military modernization program," the Future Security Environment Working Group that Andy co-chaired (along with his old RAND colleague Charles Wolf) also highlighted the possibility

1 Andrew W. Marshall and Charles Wolf, Jr., *The Future Security Environment: Report of the Future Security Environment Working Group, submitted to the Commission on Integrated Long-Term Strategy* (Washington: October 1988), p. 6.

that, by 2010, China might be able to assemble a substantial stockpile of arms and other military equipment. Thus, less than a decade into Deng Xiaoping's process of "reform and opening up," and well before most other observers had begun even to contemplate the prospect, ONA had already identified China as a potentially large and very capable strategic competitor.[2]

Awareness of this possibility was further heightened by a close reading of the writings of Chinese strategic analysts and military theorists. Informed initially by his attention to *Soviet* sources, starting in the late 1970s Andy had been seized with the idea that advances in reconnaissance, communication, and conventional precision strike weapons might be setting the stage for a new "revolution in military affairs." The 1990–91 Persian Gulf War, in which such systems were used in significant, though still limited numbers, provided an unexpected opportunity to assess the thinking of other nations' militaries.

It quickly became apparent that, among those who watched the United States decapitate and then dissect Iraq's Soviet-style defenses, none feared a similar fate more than the officers of the People's Liberation Army. In the aftermath of the Gulf War, Chinese strategists and technical specialists began to wrestle with the question of how best to blunt America's seemingly overwhelming advantage in power projection capabilities. The answer, as it emerged over the course of the 1990s, was that the PLA needed to build a "reconnaissance-strike complex" of its own, developing systems that could destroy U.S. regional bases, disable satellites and computer networks, and hit weapons platforms, preferably before they could close to within effective range of China's shores.[3]

The Office of Net Assessment helped to illuminate the formative stages of PLA thinking on these issues by supporting and promoting the research of a relative handful of analysts with the necessary language skills and patience to plow through a growing volume of Chinese military books and professional journals.[4] Peering through

2 *Ibid.,* p. 21.

3 See Aaron L. Friedberg, *Beyond Air–Sea Battle: The Debate Over US Military Strategy in Asia* (London: International Institute for Strategic Studies, 2014), pp. 15–44.

4 See Michael Pillsbury, ed., *Chinese Views of Future Warfare* (Honolulu, HI: University Press of the Pacific, 1997). See also, Mark A. Stokes, *China's Strategic Modernization: Implications for the United States* (Carlisle, PA: Strategic Studies Institute, 1999). [Stokes wasn't sponsored by ONA.]

this widening window into the collective mind of the Chinese strategic community also made clear the suspicion and hostility with which at least some in Beijing viewed the United States. Even as the twentieth century drew to a close and Washington prepared to welcome their country into the World Trade Organization, well-placed Chinese authors were portraying the U.S. as a crafty and brutal hegemon, bent on containment and subversion, but also destined for decline.[5]

'Intelligent Speculation'

As those who worked closely with him can attest, Andy was often frustrated with the work of the American intelligence community. There were many reasons for this, but one was surely that he found the bureaucracy's carefully coordinated products to be plodding, cautious, and lacking in imagination. Even when it had its facts straight, the IC was generally either unable or unwilling to go much beyond them, running the clock forward from the present in order to envision what the future might look like and how events might unfold. Its work was therefore of limited use to defense planners who of necessity had to make investment decisions with time horizons measured in years, if not decades.

Andy used a variety of techniques to help overcome this limitation, and to encourage what he described as "intelligent" (i.e., informed and disciplined) speculation that might be of value to policymakers.[6] In addition to tasking analysts to track how foreign militaries were interpreting the lessons of the first Gulf War, in the early 1990s ONA also organized a series of efforts to envision the next phases in the emerging revolution in military affairs. In the midst of widespread self-congratulation regarding the performance of U.S. precision strike systems against Saddam Hussein's forces, Andy was trying to get people to think about what the world would look like

5 See Michael Pillsbury, *China Debates the Future Security Environment* (Washington: National Defense University Press, 2000).

6 Thus, for example, when asked by Secretary Rumsfeld in 2004 what the world might look like in the next several years, Andy responded: "An effort to flesh out three to four alternative futures could be mounted. A team of people is needed to cover the wide range of knowledge necessary for intelligent speculation." Memo from Andy Marshall to Secretary of Defense, "Assumptions for Next Two or Three Years," 24 February 2004.

as the underlying technologies matured and the weapons that they enabled began to spread.

The answers were, in certain respects, concerning. Despite the sudden collapse of its erstwhile superpower rival, and notwithstanding the ease with which it had dispatched a large and well-equipped Third World foe, the U.S. military might soon face daunting new dangers. If Saddam had possessed a sizeable arsenal of accurate but relatively inexpensive conventional cruise and ballistic missiles, the U.S.-led coalition would not have had six months unmolested in which to assemble a massive invasion force along his frontiers. Nor would it have been as free to conduct a relentless and devastating six-week campaign of aerial bombardment, launched mainly from bases and aircraft carriers within easy reach of Iraq. As a 1992 ONA memorandum pointed out, once even poorer, less developed states had acquired "more destructive, extended-range weaponry," they would be able to bring U.S. overseas bases and forward-based forces within their "ever-increasing engagement envelopes."[7] Among its other effects, the spread of conventional precision weapons could thus greatly complicate American efforts to project military power into distant regions.

This was an early identification, drawing on an informed extrapolation of visible trends, of what would come to be known as the "anti-access/area denial" (A2/AD) challenge. As evidence accumulated that China intended to mount just such a challenge to U.S. forces in East Asia, ONA sponsored work designed to alert policymakers to the potential danger and to assist them in formulating a response. A 1996 summer study on "Future Asian Scenarios" explored how, over the next twenty years, China might be able to "leap ahead," neutralizing U.S. power projection capabilities and tilting the regional balance in its favor by developing new weapons and concepts of operation,

7 See Andrew F. Krepinevich, Jr., *The Military-Technical Revolution: A Preliminary Assessment* Washington: Center for Strategic and Budgetary Assessments, 2002), p. 29. As described in Marshall's preface to this report, and the author's introduction, the memo on which it was based was originally circulated in July 1992. In Andy's words, this study was "not typical of the assessments produced by the Office of Net Assessment." Instead of drawing on classified information about current or ongoing developments, "it dealt with speculation about the future, and the potential impact of technology and new operational concepts on warfare. Rather than drawing upon a small group or single individual, many panels were formed to discuss the various issues." *Ibid*., p. ii.

rather than continuing to follow a "conservative, linear strategy for accumulating military power." The ultimate aim of such a buildup would be to "overawe any potential regional rivals . . . to exert control over resources and sea lanes, to restrict the ability of the United States to operate its forces in the Western Pacific and, ultimately, to gain unquestioned preponderance in the region."[8]

The 1996 summer study envisioned a world in which, by 2015, China had deployed over two thousand conventional ballistic missiles. Some of these would have sufficient range to strike bases in Japan and on Guam, as well as U.S. aircraft carriers operating throughout the Western Pacific, while others could be used to launch multiple waves of attacks on Taiwan. In addition to this force of "massed missiles," the PLA might also seek to develop the capacity to disrupt U.S. command and control systems by disabling or destroying its satellites and launching offensive information warfare operations.[9]

Speculative tabletop exercises of this type were soon supplemented by more detailed and precise war games, some conducted by contractors working for ONA. These allowed planners to explore in much greater detail the operational implications of various Chinese weapons systems and potential force postures and, in time, they helped policymakers to grasp the seriousness of the problems these might pose. By the turn of the century, the Defense Department's Quadrennial Defense Review emphasized "the need for new investments that would enable U.S. forces to defeat anti-access and area-denial threats and to operate effectively in critical areas." One of these areas would clearly be Asia. Here, as the QDR's authors noted rather coyly, "the possibility exists that a military competitor with a formidable resource base will emerge."[10]

In addition to somewhat narrower attempts to project military-technical trends, Andy was also open to broader speculative

8 Under Secretary of Defense (Policy), Organized by the Director, Net Assessment, *1996 Summer Study: Future Asian Scenarios* (Newport, RI: U.S. Naval War College, 21–31 July 1996), p. 15.

9 *Ibid*., pp. 15–23.

10 Office of the Secretary of Defense: Quadrennial Defense Review Report, September 30, 2001. Quotes from pages 43 and 4. The QDR was shaped in part by a preliminary Defense Strategy Review that Net Assessment took the lead in drafting. Among other trends it emphasized the spread of A2/AD capabilities and the growing power potential of Asia. See Nina Silove, "The Pivot Before the Pivot: U.S. Strategy to Preserve the Power Balance in Asia," *International Security* vol. 40, no. 4 (Spring 2016), pp. 54–55.

exercises. Some of these employed structured scenario-based planning techniques of the type made popular by futurist Peter Schwartz. Others combined a mix of history, imagination, and limited doses of international relations theory to illuminate possible future developments. Much of the work that I did for Andy during the second half of 1990s fell into this second category. In 1996 he encouraged me to write a paper that borrowed the structure of Paul Kennedy's *Rise of the Anglo-German Antagonism* to describe the potential unraveling of relations between China and Japan.[11] Four years later I appropriated the title of a book by another well-known British historian for an essay describing the possible military, economic, and diplomatic dimensions of a rapidly evolving Sino-American "Struggle for Mastery in Asia."[12] Andy found this paper helpful because, as he explained, it suggested a way of structuring future work on Asia "a little more broadly than assessments have been in the past," bringing into focus "the economic and diplomatic/political parts of the struggle [between the U.S. and China] and their implications for the long-term military positions of the two parties."[13]

Open-mindedness

Andy was not interested in prediction, as such. The world was too complicated, the array of interacting forces too diverse and complex, to make the effort worthwhile. Moreover, as the history of the twentieth and early twenty-first centuries made plain, big, disruptive, discontinuous events played too great a role to discount, but such "black swans" were, by definition, unpredictable. The best that a prudent strategist could do was to try to discern "the propensity of things," identifying and weighing the most important trends and tendencies, even if some of these had not yet emerged fully into view.[14]

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11 Aaron L. Friedberg, "The Rise of Sino-Japanese Antagonism, 1972–2025," John M. Olin Institute for Strategic Studies, Project on East Asia Security, August 1996.

12 Aaron L. Friedberg, "The Struggle for Mastery in Asia," *Commentary* (December 2000), pp. 17–26.

13 Andrew W. Marshall, Memorandum for Distribution, "Structuring a Net Assessment of Asia," November 20, 2000.

14 Francois Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking* (Honolulu, HI: University of Hawaii Press, 2004), pp.15–31.

The profound uncertainty of human affairs also means that it is essential for planners to keep an open mind, entertaining a broad range of possible alternative futures even as they try to steer toward their goals. Although he had his own inclinations and intuitions, Andy was able to do this to a remarkable degree, even when others were eager to leap to what seemed like logical, obvious, and at times convenient conclusions. When asked what he thought would happen in this or that situation, Andy would usually pause for a moment and then say something like "well, I don't know." There may have been some artifice here; Andy was generally more interested in learning what others thought than he was in sharing his own opinions, and he probably avoided doing so at times so as not to influence unduly the views of those around him. But, more often than not, and especially on the biggest and most important questions, he seems to have been giving voice to genuine doubt about what the future might hold.

Andy did not devote much attention to considering scenarios in which China evolved into a liberal, democratic, peaceful, status quo power. In other words, he did not dwell on the possibility that U.S. strategy toward that country might succeed in achieving its objectives. This was not primarily because he regarded such an outcome as implausible (although I believe he did, for a variety of reasons), but rather because, if it came to pass, it would not pose major problems for the Department of Defense. Let others imagine happy endings; ONA was, as he sometimes put it, "in the insurance business" and this required it to contemplate a variety of less pleasant possibilities.

Among the alternatives that the office explored over the years were some (as in the 1996 summer study already cited) in which China grew stronger, faster than widely expected, and others in which it suffered serious setbacks. Both broad trajectories were plausible and each could give rise to distinct challenges. Close on the heels of the collapse and fragmentation of the Soviet Union, a 1992 summer study posited one future in which the PRC suffered a similar fate, as well as another in which it managed to sustain a mix of market-based economic reforms and political authoritarianism.[15] Casting an eye

15 Under Secretary of Defense (Policy), Organized by the Director, Net Assessment, *1992 Summer Study: Working Group II, Future Major Power Relations* (Newport, RI: U.S. Naval War College, August 3–12, 1992), pp. 110–113.

forward to the year 2025, a 1999 study examined both the "strong" and the "unstable" China scenarios in greater detail. Among the worrisome aspects of the latter was the possibility that a beleaguered CCP leadership might be more inclined to take risks, threatening or actually using force against its neighbors to stir nationalist sentiment and bolster domestic support, and perhaps seizing energy and other resources needed to sustain growth.[16]

Once China entered the World Trade Organization in 2001, its economy began to grow even more rapidly than before and, in the eyes of most observers, it seemed set to go from strength to strength. Even as it tracked the PRC's impressive military buildup, ONA continued to explore the possibility that the economic and societal foundations of Chinese power might be more fragile than they appeared. In a pattern of repetition that was somewhat unusual, and presumably reflected the importance that he attached to the topic, Andy organized summer studies in 2006, 2007, and 2010 with the same topic and title: "China Downside Scenarios."

The first and last of these efforts focused, in particular, on the prospects for much slower economic growth. Observing Beijing's responses to the recent global financial crisis, the 2010 study concluded that, while possible, a successful transition away from investment-led growth would be difficult to achieve. If it stuck to the existing growth model, the regime might be able to sustain growth, but it could be setting the stage for "an even bigger crisis at some point in the medium term." Following an approach that study's authors labeled "National Socialism with Chinese Characteristics," the regime might choose to boost spending on defense as well as shifting investment toward "strategically significant infrastructure projects such as ports, roads and railways." This economic program could be accompanied by domestic measures intended to sustain popular support (including more "populist, patriotic rhetoric and education," "show trials for those accused of speculation and

16 Under Secretary of Defense (Policy), Organized by the Advisor to the Secretary of Defense for Net Assessment, *1999 Summer Study Final Report:Asia 2025* (Newport, RI: U.S. Naval War College, July 25—August 4, 1999), pp. 98–125

corruption," and "crackdowns on Uighur and Tibetan 'separatists'") and by "an increasingly assertive and perhaps aggressive external policy."[17]

The purpose of studies like these was to remind policymakers that the future was uncertain, making it easier for them to question prevailing assumptions and ponder alternative possibilities. Probing the opponent's potential weaknesses instead of fixating solely on his strengths was also essential to formulating sound strategy. This was another of Andy's insights that was both blindingly obvious (in retrospect) and evidently difficult for intelligence organizations and military planners to keep firmly in view.[18]

Keeping an open mind also meant not only contemplating broad alternative futures, but considering the possibility that seemingly contradictory things could be true simultaneously. In other words, the opponent might be both strong *and* weak; at a minimum, whatever his strengths, he must have at least some vulnerabilities that could be exploited once discovered. During the 1970s and 1980s Andy was one of only a comparative handful of observers who was able to hold in his head the thought that the Soviet Union could be both a deadly serious military threat *and* an economic basket case. I suspect that he believed the same might turn out to be true of China. In any event, this is a message that comes through very clearly in looking back at some of the work that he sponsored beginning in the early 1990s: although the mix of assets and liabilities may be different, China too will have strengths and weaknesses. We need to be attentive to both.

Persistence

It is not much of an insight to observe that a man who held the same job for over forty years was persistent. Andy was both deeply committed to his work and sufficiently detached from it to endure

17 Department of Defense, Office of Net Assessment, *2010 Summer Study: China Downside Scenarios (v. 3.0)* (Newport, R.I.: U.S. Naval War College, July 23-August 4, 2010), pp. 29–32.

18 This difficulty too was one of Andy's recurrent themes and a source of some frustration. As he noted in a memo to Rumsfeld, he was struck by "how wedded people in DoD are to responding to threats. The notion that we should be causing other people problems and worrying less about threats seems something that they find difficult to take onboard. . . . There is a blindness to the problems of potential opponents." Memo to the Secretary of Defense from Andy Marshall, "Perspective Paper," October 4, 2002.

periods of frustration that would have driven lesser mortals to the brink of insanity, or at least to an earlier retirement. After all, as he reminded others (and perhaps himself) on occasion: "there's only so much stupidity one man can prevent."

But Andy was persistent in other ways as well. Once he had identified an interesting problem or phenomenon, he was willing to keep coming back to it repeatedly, often over very long periods of time, tugging at the same thread, going back and forth along the same path until it either led him where he wanted to go or revealed itself to be a dead end.[19] Unlike most intellectuals, Andy never seemed to get bored with reading papers or listening to briefings on the same topic, even when, in most cases, he probably knew vastly more than the supposed experts. And, as the list of China-related summer studies just cited might suggest, he certainly had no hesitation in putting the same question repeatedly, sometimes to the same person at different times, sometimes to different people simultaneously.

Andy was stubborn, in the best sense of the term. He was able to stay focused on what he considered to be the most important strategic challenges confronting the nation, and to keep working to bring them to the attention of senior policymakers, even when the rewards for doing so must have seemed vanishingly small. Never confrontational, in his own quietly forceful way, Andy was courageous; he stuck to his guns and told people what he believed they needed to hear, even when they might not have wanted to hear it. I don't think that he saw himself as especially virtuous in this regard. He was just doing his job.

In a conversation about Vietnam during the early 1980s I recall hearing Andy say something to the effect that "I didn't think it was very important." What he meant, I assume, was that, for all their human and financial costs, and despite the enormous attention devoted to them during the 1960s and 1970s, neither the war in Vietnam nor Third World insurgencies more generally would turn out to be decisive in determining the outcome of the superpower rivalry. This intuition was borne out by events, but it would have been far from obvious at the time. In any case, in his work at RAND and

19 His efforts to obtain what he considered to be a more realistic estimate of the size of the Soviet economy are perhaps the classic example of this persistence.

later when he came to Washington, Andy stayed focused on what he regarded as the main event: the military-technical competition between the United States and the Soviet Union. When attention began to shift back to the Central Front, the maritime domain, and the strategic nuclear balance, Andy was well positioned, both bureaucratically and intellectually, to play his part in shaping what turned out to be the climactic final phases of the Cold War.

Although I never heard him say so in as many words, I believe that Andy took a similarly skeptical view of the importance of what came to be known as the "global war on terror." Just as the Defense Department was beginning to turn more of its attention to Asia and a fast-rising China, the 9/11 attacks deflected national energy and resources to very different operational issues and to other parts of the world. There they would remain for the next decade, and beyond. The Office of Net Assessment played its part[20] but, with the rest of the bureaucracy struggling to manage urgent, near-term problems, the office pressed ahead with its work on China. Islamist terror groups had shown that they could wreak havoc, but they would never have the capacity to pose a truly existential threat to the United States or to displace it from its leading world role. China, on the other hand, was shaping up to be a very different kind of challenger.

Throughout the 2000s, ONA continued to explore various alternative futures for China, studying its evolving military capabilities and doctrine and, as the anti-access threat came more clearly into focus, cultivating efforts to think through how it could best be met.[21] Recognizing that an enduring challenge would require new organizational structures and forward-looking investments in human capital,

20 For example, by organizing a Solarium-style exercise in 2002 to help identify potential alternative national strategies for combatting jihadist terrorism.

21 The first public explication of the so-called AirSea Battle concept, which called for countering China's A2/AD capabilities by, among other things, conducting precision conventional strikes on Chinese C4ISR and land-based missiles, was contained in a report written by one of Marshall's former military assistants. See Jan van Tol (with Mark Gunzinger, Andrew Krepinevich, and Jim Thomas), *AirSea Battle: A Point-of-Departure Operational Concept* (Washington: Center for Strategic and Budgetary Assessments, 2010). But the office also sponsored work that explored the possible utility of foregoing large-scale direct attacks on the Chinese mainland and relying on a distant naval blockade to bring Beijing to its knees. See Wayne P. Hughes, Jr., *The New Navy Fighting Machine: A Study of the Connections between Contemporary Policy, Strategy, Sea Power, Naval Operations and the Composition of the United States Fleet* (Monterey, CA: Naval Postgraduate School, 2009).

Andy also departed from his usual fixation on more distant time horizons to urge some immediate reforms on the Defense Department leadership. Writing to Secretary of Defense Rumsfeld in May 2002, nine months after 9/11, he laid out an extensive list of measures that could be taken "over the next couple of years" to begin a "long-term shift in focus" toward Asia. In addition to enhancing defense cooperation with Australia, Singapore, and India, and expanding facilities on Guam and at Pearl Harbor, OSD should "direct the Services to plan for the types of military challenges a malevolent China may pose over the long-term, and incorporate these into Service and Joint war games, training and exercise programs." "GWOT permitting," the Department should "redraw CENTCOM/PACOM boundaries to reflect China as principal long-term strategic competitor." With an eye toward preparing a new generation of officers and analysts, the Secretary should direct a "major increase in emphasis on Asian security environment and associated military operational problems in War College curricula, expand investment in selected Asian linguistic and regional expertise, develop career specialties in selected Asia-related areas in both intelligence and line communities, [and] direct Service Secretaries to insert language into promotion board precepts to ensure promotability to senior grades of officers with Asia-related expertise."[22]

It would take nearly two decades for some of these proposals to be adopted. Still, to the extent that the Department of Defense and the armed services find themselves prepared for a "new era of great power competition" with China, it is thanks in no small part to Andy's persistence.

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A few final thoughts on Andy as "thought leader." This wretched label is today typically self-affixed by aspiring pundits eager to promote their latest Tweet or Ted Talk. That, to put it mildly, was not Andy's style. He published little, spoke seldom and, until the latter stages of his career, labored in near-total obscurity. While he no doubt derived some satisfaction from the recognition he received

22 Memorandum for Secretary of Defense from Andy Marshall, "Near Term Actions to Begin Shift of Focus Towards Asia," 2 May 2002.

later in life, he generally took a dim view of the newspaper and magazine profiles that appeared from time to time, with their pictures of Andy scowling, eagle-like, in front of a globe or map, and their constant references to "Yoda."

Yet Andy was, without doubt, a "thought leader." He led by example and by subtle direction. Instead of telling people what to think or how, he typically pointed others toward what he had identified as important problems and then stood back and let them wrestle with these as best they could. He knew that he didn't have all the answers and was open to new questions or to new ways of addressing old ones. If he thought someone was onto something useful or had a good idea, he would encourage them to pursue it. And he was content to let others take the credit, embellishing concepts and expanding on ideas for research that he had originated. The object of the exercise was not to gain glory but to guide a collective effort to better understand the world so as to strengthen the strategic position of the United States.

There is something else that deserves mention. Andy was far from effusive in offering praise and, especially with those who served directly on his staff, he could be a tough and demanding boss. But he also had a genuine warmth that inspired loyalty and a way of encouraging people and motivating them to do their best work. You knew that he had high standards and you wanted to try to meet them. You knew that what he was doing was important and you wanted to be a part of it. You knew that he was the smartest person you would ever meet and, if he thought that what you had to say was interesting and worthwhile, that was good enough. In this way Andy lent others a bit of his courage, enabling them to press ahead despite professional constraints or the weight of conventional wisdom. I know this was true for me and I suspect for others as well.

Andy Marshall was a great man who was also a good man. It was an honor to have known him and to have worked for him, but also a source of joy and enduring satisfaction. His memory is a blessing and an inspiration, but also a reminder and an inducement to get on with the important business at hand.

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Living the Questions. On Outlines, Organizations, and Outliers

Mie Augier

> *There is no one now who is really like him, no equivalent source of insight …. He was a singularly gifted and talented friend and mentor. I will sorely miss him the rest of my life.*

These words, written by Andy in memory of his friend Nathan Leites, capture part of what I, and I'm sure, others, feel now. There is a big Andy-shaped hole in our hearts, minds, and in the world, and we will forever miss his thinking and personality as friend, teacher, mentor, and source of insight.

This brief essay takes as its starting point a few lessons from Andy, some personal, some intellectual, some both. As with any person, traits and character are embedded in how one thinks and works; therefore, it might be useful to understand the way in which Andy's personal characteristics influenced how he thought and worked and how we and future generations can be inspired by both.

A Few Personal Characteristics

Some of Andy's most important personal characteristics include: *genuine modesty and humbleness.* Andy's humbleness and modesty are part of who he was. As C. S. Lewis said, "humility is not thinking less of our self, but thinking of yourself less." Did anyone ever hear Andy talk much about his own accomplishments? (not including when we were *really* trying to get him to talk about them) Or brag

Author's note: I am grateful to Jaymie Durnan, Andrew May, and Barry Watts for comments on previous versions (and outlines). Any remaining errors were produced without help.

about his influence? I'm guessing not; on the contrary, he often said that he thought some people overemphasized his influence (even if we don't agree, it is a strong sign of his humbleness). This is important beyond an admirable personal characteristic: Not thinking one is right most of the time (as many do, and even sometimes rightly so), we are more open to hearing other points of views and thus, get a better understanding the bigger picture.

Living the questions and always seeking insight.

Pursuing questions and being intellectually and empirically curious was key to the way Andy thought. These characteristics imply having an open mind and awareness that one doesn't know everything; but the upsides are significant. "The mind, once stretched by a new idea, never regains its original dimensions," Ralph Emerson said. The combination of keeping an open mind to what one learns in the process of living the questions, as well as the ability to continue learning, is so rare, yet so important to strategic thinkers.

Diagnosis and focus on the world as it is, not as we wish it were.

Andy had an ability to focus on getting the diagnosis right, understanding the world and the problems as they really are, and avoiding the various biases that often come with a more prescriptive focus. A commitment to a diagnostic focus and seeking insight comes partly out of Andy's humility and modesty. Again, it is a really nice personal trait that someone isn't just interested in jumping to his own preferred conclusions but is interested in continuing learning—but that, too, is very important intellectually. Recent research on "active open-mindedness" and how that is essential for encouraging lifelong learning speaks to that.[1] I sometimes (often) ask myself: how can we encourage such attitudes in students and future generations? While it is easy to think "well we can't," I do think that we can teach Andy as the exemplar of a gifted strategist (which may inspire people to learn more), as well as try to encourage the broader attitudes that nudge

1 He also had a *great sense of humor* and a wonderful laugh, but always also seeing the ideas in the humor too. For instance, when watching some of his favorite movies, including "Red" and "Red 2" and the various James Bond movies, he always was aware and shared with us that the bigger picture or plot was usually not what one thought it was; and one was alerted too when the particularly funny parts were about to happen.

people toward the ability to look beyond (and nurture other skills and attitudes such as critical thinking; judgment and intuition—attitudes Andy had naturally but that those of us who don't may still be able to learn and teach about).

Andy was also always very caring; always asking "how are *you*?" and asking how our various health issues were, even when his own health declined. He also cared about what others were interested in and thought about what they would benefit from reading—often saving newspaper or magazine articles or clips or book reviews on themes and topics that he thought would be interesting for us.[2] So he was interested in what the people around him were interested in and was always encouraging us to think better about those things. Sometimes they would be quite outside one's normal reading range. When I once asked about that (and maybe I questioned my own abilities to understand a particular book, as it was way outside my normal reading range by far), he said, "Nathan Leites wrote a book about Michelangelo" (so no excuse to not extend one's range in reading and thinking, for sure!).

And of course, Andy was *very timely*. Very. If one wasn't early, one was too late, and he certainly was always early, respecting people's time (at the same time, he was remarkably patient with people who did not share his habit of being very early).

This probably doesn't really capture his character. He was an amazing human being, and on so many levels he gave us things to aspire to and learn from.

A Few Intellectual Themes

Though we can never replicate the man or his ideas, his legacy gives us much to learn from and to try and pass on to future generations. There are many (many) aspects of Andy's thinking and character that are important to treasure and honor and celebrate. Below are some of the intellectual themes I have tried to (and continue to try to) learn from, practice, and think about.

2 He also always asked what the students thought of some issues, or what they had asked about in class—indicating that he was quite interested in how people learn and what we can do to perhaps help them think better, even a few times responding in writing to questions brought to him.

Outlines

Anyone who has worked with Andy probably has grown to love (or not) outlines. "Why don't you think about this and perhaps write up an outline of how to approach it," he would say, about research, reports, papers. Outlines are useful in helping us organize the "how-to-think-about-it" aspects of a topic; allowing us to develop a preliminary organization of the flow and ideas, structuring the arguments; and helping to organize and sequence the research, data, analysis, and writing that would follow. A kind of map of where we think we are going with a particular paper / idea / research approach; a map that is not static, however, and changes as research and writing unfolds.

Many of our academic friends use outlines too; but unlike Andy's approach, they often never change them. For many, outlining is a useful way to make research efficient by structuring the order and focus for the analysis and writing, but for Andy outlines were much more than that; outlines were never set in stone. In fact, I don't recall one that wasn't revised many times, even when one thought one was pretty close to a final draft. As frustrating as that often seemed (to have to almost entirely rewrite a paper), I have come to appreciate his approach to outlines very much, and its advantages:

- Flexibility and room for learning. His way of continually evolving outlines offers just enough structure to get started on the research (to think that "we've got this" at least to begin with); yet it is flexible enough to be always changing.
- Adaptive minds, adaptive writing. No one (that I know) knows everything relevant to one's research / paper / topic at the outset. We learn when we research, when we find data, and when we write. We can think through arguments that seem to make sense, yet not always when writing them out. Adaptive and always evolving outlines allow us to make progress and evolve our thinking and "how we think about" our topic along the way.
- Flexible outlines help counter some "pitfalls" in analysis. Going back to at least his skepticism toward systems analysis, Andy was well aware of some of the pitfalls of doing any kind of analysis, and the danger of getting locked into one or two ways of thinking about a particular issue. Open or flexible

outlines help us to remain open to what other perspectives have to offer; especially in the context of national security.[3]

- As hinted above, outlines can also be a gentle way to tell people if they are headed in the wrong direction; suggesting "reorganizing" along a different structure nudges us to come to the realization that Marshall always seemed to get there much faster.

Needless to say, now, when working with colleagues or students, a first step is always outlining; often developing one or more outline as basis for "how to think about it." What started perhaps as Andy helping us make sense of our research and make it more effective (and for him to nudge it in different directions along the way) is now an internalized routine. It was not always clear to me (it still isn't) just how the process of outlining makes the research better but I trust his instinct and don't question that. The process also was not always fun; often times when you thought you were just about done, he would say, "why don't we move the section here to the front, and rewrite the rest?" Or, more recently, "why don't we take section 4 and make that the main content, and shorten everything else or move to appendixes?" Crushing if you have an emotional attachment to your footnotes (as many researchers do). But he would do it with a smile and in the end, you know that the final product would be a lot better.

Organizations

If outlines were an important part of the *process* of doing research and writing for Andy, one of the important intellectual themes and approaches was the importance of organizations. We are all shaped by various kinds of organizations as much as (if not more than) we shape them. They influence behaviors, perceptions, strategies, what we can (and cannot) do, etc. For decades, Andy evolved his way of thinking, recognizing the importance of organizations, and helped us think about them, too. What was perhaps particularly noteworthy is that studying organizations is now a major theme in various consulting approaches as well as an academic subspecialty on its own. When Andy first became interested in looking into what we

3 As if channeling Whitehead's observation that ideas themselves are perhaps not enough; "something must be done about them."

knew about organizational behavior, the field was very much in its infancy. An early paper, "Improving Intelligence Estimates through the Study of Organizational Behavior," demonstrated his talent for seeing material and approaches that had been neglected yet could be essential to national security issues. A paper written around the same time (though appearing a few years later) offered an organizational and also strategic framework for understanding the competition with the Soviets, integrating and synthesizing aspects of yet another emerging literature and perspective from business strategy. Thinking strategically and organizationally, one could better understand the relative strengths and weaknesses of competitors and their competitive advantages. But unlike much of the (now enormous) literature on organizations and strategy, Andy did not pursue grand theories and tried to prove or test certain concepts; nor did he start from scratch in an academic laboratory; his essential starting point was deeply empirical. We need to be realistic in our understanding of our own organizations, in our strengths and weaknesses, and in our approach to the rationalities of the people involved. Such empirical grounding can help us stay focused, and also stay interdisciplinary. This sentiment Andy shared with others, including Herb Simon: real-world decision making and real-world problems don't fit disciplinary silos very well, so if one is committed to pursuing empirically driven research or work, one will quickly cross disciplinary boundaries, perhaps at the expense of analytic elegance but hopefully gaining fresh insights in the process.

Sometimes when I asked Andy how he came to realize the importance of organizations as something relevant to understand and study for national defense, he would smile and say, "but it is *so obvious* that organizations matter."[4] Well, as Whitehead said, it takes a very unusual mind to undertake the analysis of the obvious. Simon, too, fought hard for decades for economists to open their mind to the importance of organizations; and though there are now rich traditions of academics (including economists) studying organizations, few, if any, do it with the interdisciplinary and empirically driven richness that was important for Andy. As sad as that is, it also leaves

4 He would also, characteristically, give credit to others, particularly Loftus, who he worked with at RAND.

something to try to keep building on in the future; keeping our eyes and minds open for concepts that might be useful in a national security setting (not blindly applied, of course, but integrated with other lenses); and helping students learn about Marshall's ideas and build their own broad understanding of the importance of organizations in a national security context.[5]

Outliers and outlier thinking

Of note is also that Andy's interdisciplinarity was quite extraordinary and he was able to integrate and synthesize ideas from a large variety of approaches and perspectives (organizations being one). Stretching from economics to statistics to physics to demography and culture alone is noteworthy in a world where most disciplines often stay apart. He was also able to bring to fruition several quite unusual minds and perspectives, including that of his friend Nathan Leites (whose work on operational code analysis had some similarity to the organizational perspectives, but that's an argument for another day). Leites, too interdisciplinary for normal academia (Marshall noted that Leites was sad that he didn't get quite the following he had wished), produced an impressive amount of work, including insights into the styles and behaviors of other countries.[6] Probably at least in part because Leites was an outlier compared to most normal disciplines and approaches, he, like Andy, was able to stay committed to a true empirical understanding and pursuit of real insights.

Finding values in others' thinking is something that, like organizations, may seem so obvious, yet often is so difficult. Jim March used to note on observing the interactions of most researchers that they often gravitated toward those who thought like themselves. But in truth they could learn the most from those who thought most unlike

5 Including, but not limited to, seeing the behavior of nations (and non-nation states) behaving in ways similar to organizations; studying opponents' organizations and understanding their structures, strengths, and weaknesses may help us understand how we can use those weaknesses to develop our own competitive advantage. Of course, there is the theme that we, too, have big organizations that sometimes enable, but often hinder, strategic change.

6 A small illustration of just how much Andy appreciated Leites's way of thinking: I once had a list of 20 titles of Leites books and papers and asked which ones would be relevant to do and apply today with the different competitive landscape in mind, having adapted the titles to that. He went down and marked the list, with 19 of them having stars in the margin. I asked why one didn't deserve one; they already had someone working on that, he said.

themselves; so, for the healthy development of science and observations in the world, we ought to do a lot more "mixing." Andy was well aware of that, too, and was always open to those ideas and perspectives that might not quite fit the mainstream.[7]

Closing

While the above intellectual themes capture some (if only a few) themes that we probably can incorporate into our research and education of future strategic thinkers, one can also hope that some of Andy's underlying personal characteristics, though more difficult to capture, can help inspire future generations. The breadth of his thinking and way of working inspired and cultivated both a broad range of thinkers (and sometimes unusual collaborations)—and broad range thinking within each person, too.

Andy's selflessness and ability to always learn inspired an aura of unconditional respect from a variety of people (one indication is the people writing here and in other tributes to honor him). Such tributes are reminders of the special place he has in the history of strategic thinking; and in our hearts.

7 For Andy, finding value in people who thought very differently was part of who he was, and his genuine curiosity and quest to understand the world; but for many people it is something that we always have to be mindful of. He would sometimes trace it back to when he and Herman Kahn talked about the value of anthropology. He also noted that they were both avid readers and used the libraries to read widely.

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Andrew W. Marshall: The Indispensable Antidote

Abram Shulsky

In an unparalleled Washington career, Andrew W. Marshall, or, for many who worked in the national security field, Andy—no last name necessary—trained and mentored a large group of national security analysts; they were affiliated, in one way or another, with the Defense Department's Office of Net Assessment, which he created and led for over four decades. In assessing the man, one inevitably thinks first of "net assessment," the form of analysis he pioneered and developed during this long period of service.

At this point, however, I run into a strange difficulty: when talking about net assessment in everyday language to a nonspecialist, it often seems that my explanation will make it sound like net assessment is simply common sense. Isn't it obvious that in seeking to understand the relative strength of two adversaries, one has to look at all their strengths and weaknesses, ask how their respective military forces would perform in a set of plausible possible ways in which they might come into conflict, speculate on how each adversary might react to the other's actions, compare their abilities to maintain and prosecute a competition over a long period of time, look at how their decision-making processes might help or hinder their performance, and so forth? Obviously, one can do these things in a more or less intelligent manner—and Andy brought an exceptionally keen insight and breadth of vision to the process—but the importance of the questions seems evident.

So what is so special about net assessment as a method or form of analysis?

I think the answer to this lies in the fact that the relevant analyses of defense and national security issues—at least those done by government agencies in support of governmental decision making—are done in and for large organizations. These, or any, organizations have a wide variety of characteristics that impede the type of common-sense analysis discussed above.

There are any number of reasons for this. Since many are involved in any organizational analytic effort, there is an inevitable pressure to find some sort of consensus position; once a consensus is arrived at, it gains a kind of inertia that impedes any effort to overturn it. An organization must subdivide problems so that different sub-units deal with different parts of it; this can get in the way of taking the holistic approach required. An organizational element develops a complex methodology for evaluating a certain parameter, and devotes a large amount of time and effort to refining it; while doing this, it may tend to ignore changes in the larger situation that suggest the measured parameter is now no longer so important, or important in the same way, in the grander scheme of things. Certain categories of expertise become familiar to the organization and are routinely incorporated in its analyses; but new, unfamiliar kinds may be developed that could contribute important insights but remain outside the organization's ken.

In short, while an organization must routinize and subdivide its analytic tasks in order to do them efficiently, that can introduce a set of pathologies into the process. What is required is an antidote that can understand the organizational processes, and step outside them to ask whether they are still accomplishing (or ever did accomplish) what they set out to do, and whether there might not be other approaches or types of expertise that could provide additional or superior insight.

Enter Andy. Whatever the issue in question, one always had the sense that he understood the standard approaches and calculations as completely as any insider, but was always looking at them from the outside: Did they begin by addressing the right questions? Were their results plausible, and how could one double-check them by other means? Were there other approaches and methodologies that

would shed light on the question?

And in particular, what could you bring to the table with respect to these questions that wasn't already known?

A conversation of this sort with Andy could be an unnerving experience. With a quiet gaze that suggested that he already knew every known facet of the issue, he would silently wait for you to tell him something new, something that he would consider interesting. If you succeeded, you might get a contemplative "hmm." If not, he might be silent until you tried again.

This goes to the heart of who Andy was. He was never satisfied with the conventional wisdom or, more importantly, with the methods by which the conventional wisdom was arrived at. He could be interested in seemingly far-fetched areas of study (for example, primate behavior) if he thought they could they could illuminate questions of international relations. He was never intimidated by complicated and massive databases and calculations—the sort thing an organization might produce and then come to overly rely on—if they produced results that seemed improbable or impossible (such as the official overestimation of the size of the Soviet economy, to say nothing of the estimate that in 1985 the GDP per capita of East Germany exceeded that of West Germany). Instead, he sought ways of bringing in unconventional sources of information or unconventional approaches to challenge the official position.

This far-ranging intellectual curiosity and creativity made him the indispensable antidote to every kind of conventionality and groupthink. From his cluttered office on the A ring, he sought first and foremost to describe the reality of any subject to which he turned his mind, unbound by the standard methods of the Department of Defense, the huge organization he knew so well, quietly inserting, by means of a well-timed memo, his insights into the department's deliberative process.

One of the signs in his office read, "There is no limit to the good you can do if you do not care who gets the credit." For most of his career, Andy flew beneath the public radar, unobtrusively doing good while claiming no credit for it. But his name and his example live on among the large number of people, of whom I am proud to be one, for whom he represented intellect and patriotism to the highest degree.

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AWM and Leadership: The Fortunate Role of the Dice

Chip Pickett

My involvement with Andrew Marshall ("Andy" for much of this short paper) began in 1972. I was in my eighth year as an Army officer, a captain with backgrounds in infantry (ranger, airborne) and intelligence (targeting units in Vietnam in 1968, DIA's chief analyst on enemy force strengths in 1969–1970). I had an undistinguished undergraduate record. The Army had sent me to Harvard Business School.

Andy initially selected another candidate for his staff, but then changed his mind. I joined in the summer of 1972 at the National Security Council (NSC), part of his two-member professional staff. My assignment was to support him in his role to improve intelligence support to Kissinger and the President. In late 1973 Jim Schlesinger, a longtime friend of Andy's, was moved from CIA to DOD; he approached Andy to come to the Pentagon. Andy accepted, but left me at the NSC for a short time to conduct a one-person study of intelligence support to the White House in the October War.

Marshall's career in Washington had several phases. First was his initial arrival at the NSC Staff to focus on intelligence support, the reason I was hired. He was also tasked to conduct net assessments. Subsequent phases of his career were to make net assessment his central role, and the path to his enormous influence over strategic thinking. I use the term "phases" because even in his role in net assessment I think there were several periods, from initial studies and gaining a following, to expanding from force comparisons to larger

force issues, to new strategic approaches to military competition, to probing potential sources of international challenges, to searching and developing new ways to think about strategy.

Andy brought me to the Pentagon. I became his staff member for working with the Army. For the next two years (1974–1976) this encompassed a variety of studies: comparisons of Soviet and U.S. ground force numbers; tank and weapon comparisons; comparisons of training and logistics; collections of insights on Soviet air defense guns and tanks; and, even arranging a drive off between the M-60 and T-62 tanks. I was able to observe some other efforts, such as his drive to revise CIA's estimates of Soviet defense spending.

In 1976 I departed the office. In the 1980s I began returning as an occasional outsider to work on projects, a role that lasted three decades. This included studies of Soviet and U.S. costing, examining the rates of innovation in U.S. forces and in commercial industry, attending and leading Newport studies, and providing Andy with leads on ideas emerging in academic and corporate circles on business strategy. Andy and I were talking a month before he passed about the troublesome aspects of astrophysicists deciphering the universe and how that resembled Thomas Kuhn's *The Structure of Scientific Revolutions*. Andy was a man whose brain never stopped reaching.

The Settings of Intelligence and Net Assessment

To understand the leadership character of the man, one should (in my view) understand the scope of the work he embarked on.

In intelligence he entered a time when intelligence was in the midst of great advances in collection and analysis, and in which intelligence was already imbedded as a full-time function in a number of government organizations.

The period of 1945–1960s had seen improvements in collection and analysis, focused largely on the USSR, but knowledge was still fragmentary. For example, while the U.S. had insights into the views of some Soviet military leaders and the general location of forces, it lacked details on the number of people in uniform, their location, the quality of their equipment, their level of preparedness, and what the USSR was willing to do if war occurred. Satellite coverage began in the

1960s to provide huge additions to understanding, but throughout the 1960s was still evolving in coverage and precision. Throughout the 1970s and 1980s, this collection was to grow and improve.

In the arena of analysis, the CIA dominated national intelligence through much of the 1960s. The Defense Department was weak in analysis, although in collection it was far better through the National Security Agency and a newly growing Naval Reconnaissance Office (then highly classified even as to title, and known as "4C1000"). That analytical weakness was to some extent organizational. Several of the military services had limited career fields in intelligence, and their intelligence chiefs included general officers from combat branches (often with deep experience from WWII and/or Korea). The Defense Intelligence Agency, DOD's top-level agency, was led and staffed often by castoffs from the military services. CIA's dominance in analysis only began to weaken in the 1970s.

When Andy arrived in the NSC, the CIA maintained that "it worked for the President." In reality, as Kissinger, Schlesinger, and others recognized, this self-image lacked some reality. For example, the President's Daily Brief (PDB) was often not read by Presidents, and one of CIA's major weaknesses was not realizing that Presidents and their staffs had other "intelligence" sources (e.g., major newspapers, meetings with foreign leaders, and contacts with businessmen and academics with extensive overseas networks.) National Intelligence Estimates (NIEs) were long and detailed, more so than could be read, and more seriously lacked clarity. CIA covered differences among analysts by wording, as opposed to being clear on the nature of differences (e.g., was the Backfire bomber designed to reach the U.S., or was it a regional or ocean fleet attack aircraft?) Finally, the agency was occasionally inclined to dismiss demands for information as not being what intelligence should do (e.g., attempting to halt studies of foreign leaders).

Marshall stepped into this situation at the NSC. To some extent his success was more narrow than broad; his focus was on what the White House needed, not the general future of intelligence. It helped enormously that the President sent Schlesinger to be Director of CIA, the first non-CIA person in the job. His push for footnotes in NIEs combined with the pressures of the DOD and Andy to move the

needle. Andy sponsored studies of the quality of both individual reports and overall analytical judgments by the agencies (e.g., uncovering that mobilization rates in one paper assumed impossible loading approaches on railcars). He had to intervene personally to prevent CIA from terminating leadership analyses.

In intelligence, Andy was stepping into an established set of institutions with several decades of pursuit of the subject.

His job in net assessment involved very different initial conditions. There were incidents of net assessment in the past, but no constant ongoing efforts and no established government agencies for it.

The problem in the period of 1950–1970 was not just the absence of comprehensive data on the USSR. It was the limited supply of strategically useful comparisons of forces, capabilities and potential uses. While each U.S. military service and the Office of the Secretary of Defense (OSD) endeavored to compare the two sides, much of that was strongly influenced by the backgrounds, analytical methods, and goals of the participants. The Army, for example, would look at counts of tanks but the underlying goals were to protect its budget; and, in the 1960s the Army was so consumed with Vietnam it had largely set aside looking at U.S.-USSR ground forces. The Air Force tended to match its aircraft against what was known about the fighters of Soviet Frontal Aviation, often to support higher performance requirements for its next generation. Consideration of pilot training or logistics demands was set largely aside. OSD, deep into Systems Analysis, focused largely on those aspects of Soviet forces that could lend themselves to some form of quantitative analysis (e.g., movements of the FEBA by comparing numbers of weapons and divisions).

A seminal characteristic of this was that no organization was specially charged with focusing on overall comparisons of the U.S. military to that of other nations. The intelligence agencies refused, because their charters excluded analyzing U.S. forces (an interesting conundrum because one has to judge the effectiveness of a force in the context of the force that opposes it). The military services looked narrowly at the problem. OSD's attention was methodological.

As Andy was to say often in later years, net assessment was not part of the deal in his coming from RAND. The words were inserted into the charter somewhere in the NSC staff, the location always

unclear. Nonetheless he and his second staff member spent more than a year framing what was labeled as Project 186. CIA and DIA initially abstained from becoming involved, and the development of P186 kicked off only fully when Marshall arrived at OSD. Its goal was initially straightforward comparisons of U.S. and USSR ground forces: how many people in uniform; how many divisions; how many weapons of different types; how does logistic support work; what is the readiness level; etc. The side-by-side comparison was to build a basis from which the tougher questions could later be addressed.

Following that effort that marked net assessment in the early years, Andy would move the office into a number of related areas in the 1980s and beyond. Net assessment as a term would sweep under its analytical attention numerous topics that impact strategy. For example, why the forces of nations evolve as they do; how rapidly major changes in operational practices can occur; what the future held as potential military challenges to the U.S.; and, how the strategic view of U.S. peacetime and wartime military capabilities could shape the confrontations that might occur. The office became the key source of ideas in topics as diverse as the competitive strategy, core capabilities, revolution in military affairs, rates of innovation in forces, and comparisons in new areas of potential encounter (e.g., C3, Space, Cyber). It did not focus on choices in these; it focused on thinking better about them.

The Challenges to Thought in Net Assessment

Today, after decades, net assessment as a form of thinking is seen as commonplace. Yet the conditions at the inception of the office in the 1970s were very different. The challenges of the 1970s were substantial.

Data was a problem.

In the 1970s, the "data" for force comparisons and analysis were far from available, far from uniform, and far from being statistically valid. Early work in net assessment was occasionally as affected by problems of tabulating the size of U.S. and allied forces as by problems in accomplishing the same for Soviet and other nations' forces. Following on from that were the challenges that understanding

the numbers did not mean that capabilities were understood. That required gathering data on less quantitative issues like training, logistics, doctrine, exercise performance, and plans for wartime use.

Methodologies for such analyses were poor at best.

In the 1970s there were several approaches for analyzing the data on military forces. But these were questionable on their merits or had powerful impacts on decisions and thus subject to various institutional actions. Systems analysis was focused on cost effectiveness; regardless of its merits it also led force analyses in particular directions. Force-on-force metrics could not deal with operational art or the starting conditions and events leading to war. The Lancaster equations and principles on force ratios had endured for decades and continued to do so. Quantitative data could be used to clarify and explore issues, but not resolve them. Probing with the wrong methodology in greater detail did not solve the problem that the method was wrong.

Topics were complex, as to be expected in national security strategy.

The issues were global or broad in their character, long-term in their nature, and unstable in their conditions. How the Soviets and the U.S. compared in their capabilities to conduct war at sea, for example, not only depended on factors such as the existing forces, but also on each side's imbedded historical experiences, concepts of war, and the importance of the oceans themselves. Similarly, the approaches to air defense were very different between the two sides. Both sides' ability to adjust were limited by their histories, organization, sense of urgency, leadership, etc. Finally, across each side's military forces and national security approaches, there was constant change, and each side had influence over what the other side's choices were.

There are numerous examples of how complex national security issues can be, but one exemplifies how enduring and consequential they can be. In the early 1970s the Soviet's ICBMs were the SS-9 and SS-11. The U.S. had placed its Minuteman (MM) in silos, spaced apart and reinforced so that a concerted ICBM attack could not disarm the ICBM force. MM was to be the survivable deterrent, and there were

not enough SS-9 and SS-11 to destroy it in silos. But, entering into arms control negotiations, the questions were what was the planned use, because it affected how the U.S. pursued the negotiations. A satisfactory answer did not emerge. (One of Andy's observations on the negotiation was, do not seek to disband the Strategic Reserve Force; attacks on organizational survival were more threatening than controls on its output.)

After the Cold War, interviews with the Soviets revealed that the Soviets had an entirely different view of MM in silos and it shaped their weapon designs and use policies. In the 1960s they had conducted high-explosive tests on silos and concluded that the American ICBM silos were too close together and vulnerable to destruction. That led them to believe the U.S. planned to use MM as a first-strike weapon, not one to ride out an attack (the U.S. approach). It led the Soviets to a "launch under attack" approach, to build solid fuel ICBMs that could be launched within five minutes, and to have enough ICBMs to attack soft military targets and infrastructure. ICBMs would not be wasted on empty U.S. silos. So, both sides had used data to reach different conclusions about force use in a nuclear war (and decades were to pass before this came to light).

Organizations were obstacles.

No organization owned the global nature of net assessment, although many claimed parts of the data, the methodologies, and the processes for conducting the work. Moreover, their own backgrounds sometimes supported specific approaches or denied the competing ones. Indeed, experts could be supporters or obstacles. Net assessment required crossing organizational boundaries. Most obvious was the mixing of intelligence and U.S. data and analyses. And, assessing the balance in the Central Front required not only bridging ground, air, and naval forces, but also allied and U.S. Other nations had a vote in how such analyses progressed.

Proponents of methodologies could and did "fight" the tasks of net assessment, sometimes for decades. CIA's estimates of Soviet defense spending covered over fifteen years of resistance. OSDP&E, whose reason for being rested on quantitative assessments, disparaged the net assessment efforts on numerous occasions. The military

services were initially an obstacle, because they believed in their unique understanding of war in their domains, and that the outputs would affect their budgets. Their resistance diminished over the years as they realized that Marshall himself valued the complexity of their domains of warfare, their attention to the longer term, and their imbedded skill.

Andy's Leadership

I think it is reasonable to conclude that Andy should not have succeeded in net assessments. Indeed, the fact that he rented an apartment and furniture when he came to Washington in the 1970s says that he himself viewed his position as temporary. I never asked him why he thought that, and maybe he would have given me an insightful observation about organizational behaviors in the face of major changes or innovation. But I could equally suspect the answer was that he was just responding to Kissinger's request and planned to return to RAND.

He did succeed, beyond what I believe he initially thought possible, and an important part of that was organizational positioning and top-level support. At the NSC, simply the position of White House Staff compelled agencies to pay attention, even if only marginally so. At OSD, Andy's direct reporting to the Secretary, Andy's informal discussions with him, and his attendance at senior meetings gave him positional authority. It helped enormously that he kept his staff small, which made budget cutting a largely frivolous tool to cancel the organization. Over the years this positioning enabled the Office of Net Assessment to investigate strategic issues with minimal constraints on where and how to look. It also created a supportive feedback loop, because the more it flowed insights to the Secretary, the more its important role was recognized.

Benefiting from the initial organizational context, Andy's leadership was essential to moving a temporary study effort, to the enduring and powerful role that ONA was to have in the subsequent four decades.

He led from the brain, not from the bureaucratic position.

Andy behaved more as superb analyst who had a modest staff, not as a manager of a staff reporting to the Secretary. Andy led from the brain, from the substance of thought. He read constantly, sought out people with interesting ideas, picked up on new lines of thinking, and never let research and analysis rest alone in his staff. His sleeves were rolled up and his head was in the material.

There was no flamboyance, no rousing of the group, and only an occasional long, personal observation on topics that were bothering him and what he was trying to achieve. I can remember people describing visiting the office to talk with him and wondering if he ever talked at length. He seldom made speeches, a remarkable behavior in an institution where senior people made speeches almost weekly.

His office was a mess. It was stacked with papers and studies. Walking into it was like walking into a professor's office in a graduate school. A common question was whether he actually read all the material. I think the answer was yes. His office mirrored a work style that paid attention to content and was not deeply embroiled in the bureaucratic politics and competition of the Defense Department's staffs. The day, and my belief the nights at home, were spent in maintaining and developing contacts, looking at studies, engaging in discussions of strategic issues, etc.—the activities of someone who spent his time in thinking about concepts and contents.

I still have papers that Andy wrote personally. His style was more academic than cryptic, more contemplative than directive, more insightful about the subtle than sweeping in the style of defense prognostications. He wrote in a style that was not routine for documents that were often funneled to the top decision makers. It tended to get attention because it did not underline, highlight, or break paragraphs into innumerable bullets, and (a departure from standard practice) did not start with a summary of its contents. If only because of that different style, it warranted attention. And it matched the fact that often the subject matter—the future, complexities, uncertainties, comparisons, strategic ideas—did not lend themselves to the terse, pointed judgment. And, Andy did not make charts (one of the major indicators that presentations were not his forte).

The combinations of deep intellectual commitment and reticence in public speaking were powerful tools for making progress in net assessment as a way of thinking. The breadth of the subject, the absence of a strong intellectual past, and the uncertainty about net assessment as a topic (which gave rise to numerous papers defining it)—meant that the person to bring it about had to be thoughtful. A clever bureaucrat would have endured but eventually lost traction because he or she could not have held forth on content, or distinguished their contributions from those of others. Andy's quiet reserve also meant that people who wanted his function to disappear could not point to his bureaucratic behaviors or a seeking of the limelight as reasons to dislike the office. To the extent that there was competition for the attention and support of senior people in DOD, Andy's entre was thought.

He hired well.

Identifying me as Mr. Marshall's "first hire" has been a source of some entertainment to me. I was the first person through the door; people seem occasionally to believe it says something about my "smarts." Nothing could be further from the truth. If anything, I was the answer to a particular need by a man who thought he was only going to be in D.C. for a few years. I had a perspective he wanted based on my years at Harvard; I had an intelligence background in fields important to his work; and, (perhaps even more important) I already had major security clearances. By the characteristics of subsequent hires, I sneaked into the room before the door was closed.

The analytical power of Andy's staff—and thus the ability of his staff to keep up with his breadth—was mirrored in his next three hires. Two were Rhodes Scholars. One had a Ph.D. in economics from Yale, one of the nation's best economics departments of that time. One held a Doctor of Business Administration degree from Harvard Business School, having studied under several of the leading names in management control systems. All three were field-grade military officers. One had been a surface ship captain whose destroyer won the award for the best ship in the Pacific, one had been the captain of an attack submarine, and the third was destined to be jump promoted and take over a department at the Air Force Academy.

Andy had a strong bent for military officers. He held a deeply ingrained respect for those who served, for those who had seen combat and the challenges of operations. Andy sought the few who had bridged the difficult divide between the thoughtful and the pragmatic, who had navigated the channel between concepts and reality in the use of force, and who had reached outside the box of practiced approaches to thinking about military forces. Andy wanted that blend of smarts and practicality, of strategic thought and operational implementation, and of understanding the strengths and weaknesses of people and organizations in planning and carrying out the challenges of combat.

Further additions to his staff long after my departure reinforced that thinking power was a major screening factor in joining his staff. He sought competence and intellect. He wanted pragmatism as well as conceptual strength. He wanted minds open to departures from where their backgrounds, experience, and education might push them. He wanted minds open to investigating or considering fields that might be immature, off the mainstream of thought, or even eventually to be proven wrong. He wanted people who combined these with a willingness to work hard to make progress.

He built an enduring following among those who worked for him.

His hiring also could have a lifetime impact. Among those of us captured by the level of thinking, departing the office did not mean ending the relationship. Andy kept tabs on the good minds, many of them writers in this book. He enlisted them in studies, panels, war games, educating fast-track young officers, and a host of other actions.

This was the core of "St. Andrew's prep," the graduates of ONA. Some of the members became four-star generals, some ran departments in universities, some became secretaries in the DOD, and some became senior officers in corporations. That fact alone is one of Andy's great achievements in hiring, because he found extraordinarily smart officers and civilians, and they became the leaders that spread the net assessment type of thinking. They also became a core of people who rose over the decades to defend the importance of this type of broad insightful thought.

The lasting existence of net assessment, instead of a brief episode in defense analysis in the 1970s, owes much to Marshall's development of people and their dispersal.

He recruited outsiders, diverse in backgrounds and interests.

Andy not only grew sources and followers in his staff. He built a much wider web through growing contacts in an immense diversity of fields of thinking. His rolodex grew as the early additions provided more names and organizations, as he probed different subject areas (some seemingly widely afield of defense analysis), as the military services and senior service schools joined the work, and as his members of St. Andrew's prep fed new thinking and new people to him.

In the years after the NSC, Andy tapped these sources in standard ways of telephone calls, trips, obtaining early writings, and reading reports. His work at RAND had already provided names in academia and think tanks. His participation in academic research in organizational behavior was a feeder. Books and articles by professors in business strategy led him to contacts with some of the leading thinkers. His ties to anthropologists and sociologists emerged from his long-term relationships with people in the field. Scientists and engineers would come into contact with him through think tanks, universities, and businesses.

In addition, he used a variety of means to bring to bear the disciplines and research of these rolodex people. The Office of Net Assessment's organizational tools included war games of various types, panel meetings, summer studies, short special studies, and recruiting of individuals to teach in programs to develop military officers. To his credit is that these approaches enabled the office to reach a wide range of expertise only when needed without creating continuing contractual relationship. It enabled the office to recruit busy academics, think tank members, and businessmen, who could not have provided major parts of their calendar to ONA.

He tapped into the major growth in thought in the last half of the twentieth century.

Net assessment as a discipline also benefited from the general growth in analysis in a number of fields in the last half century. Social, physical, and biological disciplines made major advances. For example, behavioral economics made an early and minor appearance in the 1960s, but not until the 1990s did it reach the stage of an accepted subdiscipline in the field. Business strategy began emerging in the 1960s, and over the next four decades produced numerous ideas about strategy. Organizational behavior began substantial growth in the 1960s. Numerous concepts and ideas about topics as diverse as innovation and competition emerged with the growth of solid-state industries and increasing commercial competition of foreign states. All these built an ever-expanding base of people and thinking in fields important to the broad scope of the work.

Marshall tapped into academic circles because he felt that new ideas and theories tended to percolate in academic settings for some years before surfacing in the more popular literature. In the early 1980s, for example, the search for better understanding of company success led to the "resource-based view" of the firm. Nearly a decade was to pass before it emerged in the 1990s as the "core competence" of the corporation. In organizational behavior one of the early behind-the-scenes developments was at Harvard. Professor Ernie May formed a group (the May Group) interested in the idea of organizational roles; Marshall from RAND joined. The graduate assistant and note taker was Graham Allison, whose 1971 book *Essence of Decision: Explaining the Cuban Missile Crisis* (in my view, even today one of the more interesting reads on organizational behavior).

The period of the 1970s also marked the beginning of defense analysis becoming an industry in itself. Braddock Dunn & McDonald, Science Applications International Corporation, and other companies were in their early years. It would be well into the 1970s before they became big companies with analytical contracts across the federal government. Andy's early projects coincided with this growth. Arguments can be made about the value of the analytic industry, but in the 1970s it was founded on people with great skill and a willingness to work hard to crack difficult questions. Andy

enjoyed early access to this talent pool. In later years (1980–1990s) he certainly benefited from the size of the pool, and both he and his staff knew how to engage it.

He avoided roles with substantial organizational risks to focusing on net assessment types of thinking.

In the Defense Department there are several areas that engage substantial portions of the organization. These include budgets, acquisition management, R&D investments, programs, and military and civilian personnel policies. All five sit at the heart of the institution, involve substantial numbers of people and agencies, and entail a wide variety of practices and methodologies. Becoming involved in any one or more is to encounter an existing structure that may or may not accept entry, and in any case would require substantial amounts of time, staff, and money to participate.

Marshall sidestepped these obstacles. In doing so, he was able to keep his staff small and provide support to senior people in a new area. For example, the military services became more supportive of net assessment once they realized that net assessment's impact on their future was longer term and often supportive. Unlike other parts of OSD, Andy's staff did not dive into cost-benefits of existing programs or reallocating moneys among the services. It framed issues, not answers. Moreover, it provided a direct path to the Secretary of Defense for strategic ideas, and left the budgetary implications to others.

For example, the office helped the Secretary of Defense to understand that the value of bombers as a force element (without picking a bomber project) included considering how much it encouraged the USSR to invest in air defenses as opposed to more offensive capabilities. It helped spawn ideas for how the operational practices of the Navy could cause the Soviets to pull back their open ocean capabilities in a crisis, instead of deploying forward toward North America.

The Closing Note

Partial credit must go to factors initially outside Marshall's control, the very top level support ONA received in the formative years from the Secretary of Defense. But its subsequent endurance

and reach must be credited almost entirely to Marshall. And Andy's behavior that achieved this, it seems to me, is more about his own deeply imbedded style as a person. I still consider that "leadership," but it also means that Andy's style was more of a fit to the nature of the work, than Andy adjusting his style to fit the work. Indeed, the nation benefited from the fact that Marshall's personal characteristics complemented an endeavor that had little precedence but great potential for national security.

As any junior officer would do, in 1972 I helped Andy and Mary move into Watergate on a Saturday. Because this was a temporary job, he even chose to rent furniture. Los Angeles was home. Decades later in the 1990s I lived in Fairfax, and every few weeks my wife and I would play bridge with close friends next door. One night I asked Charlie how business was at CORT Furniture Rental, which he ran across all the northeast. Charlie said it was very successful. Then he remarked that he had this one customer who had been renting from him for over twenty years. The furniture had long since been depreciated and he was thinking about just giving it to the renter to get it off his books. Not knowing my background, he remarked "this guy Andrew Marshall is the longest-term renter we have ever seen."

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A Clandestine Officer

Stephen P. Rosen

In November 2014, Andrew Marshall attended a dinner of young national security officials. After he made a few remarks, the floor was opened for questions. One of the young men was bold enough to ask a question many of the people who knew Mr. Marshall would have liked to have asked but never dared. "Mr. Marshall, what is the professional accomplishment of which you are most proud?" There was a pause long enough to be uncomfortable, and then Mr. Marshall responded, "I don't think I can talk about that."

Shortly before his death, a friend remarked to Andy that Andy's friend Herman Kahn had said that he did not think anyone after his death would be able to know what his life had been like. "That is how I feel about my life," Andy is reported to have said in response. He remarked to another friend shortly before his death that his life had been strange. There were long periods of stability, but once or twice things had happened and turned everything upside down. He was famous for being taciturn, but yet another friend said that on his deathbed, Andy had called out to him, "tell the story."

This is an effort to present fragments, often out of chronological sequence, of what Andrew Marshall said to me, over a period of thirty-nine years, that hint at his story. It is supplemented with recollections of his friends and some research. I spent much time talking to him, sometimes watching him smile silently, sometimes listening to him deny with a blank face knowledge of what he must have known, or sometimes enduring his grim stare. Occasionally he would listen, say, "I know all about that," and then say no more. I

want to record what Andy and others have said about what happened, and will also speculate about what might have happened, so that I can try to tell the story. I think what I have written is true. I think people should know what Andy accomplished, and the sacrifices he made in the service of his country.

Early in 1991, I was going through chemotherapy. Andy and I were in Newport, Rhode Island, for a meeting. In the evening, Andy asked me if I felt like talking, which was an unusual thing for him to ask. I said yes, and we found a place to chat. I told him that I was having a hard time, the chemo made me tired and would last for many more months. Andy then talked about himself. When he was a teenager, he had suffered from a heart illness, unspecified, and was told that he would not live very long. He went into a depression, he said, which lasted into his twenties, at which point he figured out that he was going to be alive, at least for a while. He said that this had been a hard time for him. World War II was going on. His friends were enlisting, and he was not fit for combat. His eyes became wet, so I said to him, "you lost a friend in the war." He nodded yes but did not speak.

Some years before that, the subject of organizational behavior came up, and he mentioned that much of what went on in large organizations was hidden and was never formally recorded. He worked in an airplane wing and turret factory during World War II, he said, and he would come to work early to find used condoms inside the turrets under construction in which the factory workers had had sex the night before. Shortly after September 11, the subject of the reliability of ethnic groups in the United States came up, and he looked grim and again referred to his time in the factory. He said that when the war started, the plant manager took all the German-Americans aside and told them in no uncertain terms that their loyalty had to be proven and very bad things would happen to them if there was any indication of treason.

All these fragments stuck in my mind, but meant nothing in particular to me, until after Andy retired. With more time on his hands and some thought to getting the history of the Office of Net Assessment recorded, Andy spent many afternoons talking about his early career. How did Andy become interested in understanding the

behavior of the Soviet military? Well, he said, he knew an American general who had been very interested in finding out about Soviet military training, in understanding the problems they had, their worries, and the mistakes they made. How did you meet this general, I asked? Well, an Army officer approached him at RAND about a human intelligence issue that Andy could help him with, and that led to a visit to the general in Germany. This time the penny dropped. "Andy, at that time you were working with Joe Loftus at RAND, too." A nod yes. "Loftus talked to you about highly classified Air Force signals intelligence that showed that the U.S. knew much more about the Soviet nuclear programs than most analysts at RAND realized." Yes. "And you were talking to Herman Kahn about his use of Monte Carlo methods in connection with his work on the hydrogen bomb. You went to the Nevada Test Site to observe a nuclear weapons test." Yes. "Andy, it seems you were read into Army human intelligence programs, Air Force signals intelligence programs that were not available to RAND analysts with clearances, and advanced American nuclear weapons research programs. You had Q clearances and knew about thermonuclear weapons design at a time when people with Q clearances had to follow special security procedures when they traveled abroad.

"But you were hired at RAND as an economist to work on the question of what to bomb in the Soviet Union. For that, you needed to know about the Soviet economy, oil refineries and factories, things like that, not all that sensitive information. Those clearances were not given out without a clear need to know. How did it happen that you had all those clearances?" He smiled. "I guess they just thought I should know about those things."

Andy, what did you do between the end of World War II and 1949 when you joined RAND? "Well, I went to graduate school to study economics for a while. I visited an office in Washington, but it did not come to anything." What office was that? Silence. Andy, I have been reading a book about the Army Counter Intelligence Corps, the CIC. It seems that it may have been the primary intelligence agency collecting information about the Soviet Union in the period after 1945 when the Office of Strategic Services was disbanded and before the Office of Policy Coordination, or the CIA, was formed. It did a lot of

the work with emigres and refugees from the Eastern Bloc, to identify who had worked in Soviet military installations. It handled the Nazi rocket scientists who were brought to the United States in Operation Paperclip. It tracked the German scientists seized by the Soviets. The CIC was the organization that developed a lot of the intelligence about Soviet missile programs and nuclear weapons programs, working with the former head of the Nazi *Fremde Heere Ost*, Reinhard Gehlen. FHO ran agents in the Soviet Union during the war and the CIC took over those networks after the war. CIC worked with the people who did American war plans because in those days, the war plan focused on strategic bombing and then supporting anti-Soviet guerrilla uprisings. CIC knew about targets for bombing through the German scientists, the emigres, and about the anti-Soviet guerrillas through the Gehlen network in the Eastern Bloc. "I don't know about any of that." Andy, were you in the Army Counter Intelligence Corps? "No." A scowl came over his face, so I changed the subject, but as I was getting ready to leave, Andy causally said "I would be interested in taking a look at this book you were reading."

I then recalled something from years before that had seemed unrelated. Around 1982, I was in his office when he took a telephone call from someone. I stood up to leave but he told me to stay. "Yes, I reported the burglary. My apartment was broken into and a handgun was stolen. Yes, the theft was reported immediately to the police because of the nature of the article that was stolen." By then I knew that Washington, D.C., had very restrictive gun control laws, and permission to keep a handgun at home was not easily obtained.

All this is true as best as I can remember it. What follows is a speculative effort to try to connect a bunch of dots that may in fact not be connected. Andy took security as seriously as anyone I ever met, and loathed and despised those who did not. He never leaked anything. What follows is my attempt to reconstruct what might have happened. The most that can be said of what follows is that is not implausible.

Andy was an unusually intelligent young man, deeply patriotic but unable to serve in the military during World War II, a war in which a close friend served and died. Working in a tank factory was a form of national service, but it hardly made full use of his talents or

risked any harm. There were problems of internal security at the tank plant because of the German-American workers, and because Nazi espionage and sabotage efforts relied heavily on German-American recruits. Andy was observant and close mouthed as well as intelligent. He may have been recruited into the Army Counter Intelligence Corps to deal with wartime security issues. The CIC provided security for the Manhattan Project. It also conducted "active" intelligence that grew out of counter-intelligence but was distinguished from counter-intelligence, because it ran Operation Paperclip that brought Nazi rocket and other scientists to the United States to develop military technology. It gained insight into Soviet military research and development by tracking the Nazi scientists the Soviets had captured. CIC had contacts with emigres from and people still in the Eastern Bloc, and this also enabled it to collect intelligence on Soviet military programs.

After the war, as a CIC officer, Andy might have been drawn into the active intelligence collection programs run by the CIC that tried to uncover the status of the missile and nuclear weapons programs in the Soviet Union. He might have been approached by Frank Wisner's Office of Policy Coordination, the bridge organization between the OSS and the CIA focusing on the problem of planning for war with the Soviet Union, but he might have declined and retained his connection with the CIC.

By his own account, Andy was one of the earliest employees at RAND, nominally hired as a University of Chicago trained economist. RAND Corporation was created to study the problems of intercontinental nuclear bombardment for the Chief of Staff of the Air Force, and was to have sensitive information about American programs and intelligence about the Soviet Union. Andy's nominal charge was to study what targets to strike in the Soviet Union.

One possible conclusion is that Andy may have been a former CIC officer working at RAND but retaining his connections to the CIC. Andy clearly had personal knowledge of the clandestine services. He often expressed his disdain for CIA analysis but had a high regard for members of the Directorate of Operations, whom he said he knew and worked with. Andy was asked by Kissinger to evaluate CIA intelligence analysis of France. Andy spent time in France, some months in the 1950s, I believe, and a year at NATO headquarters in Paris in

the early 1960s, and may have run a network of agents there with no official cover, a NOC.

I discussed this with a senior retired intelligence officer who worked for a friendly government and who had known Andy: "Andy was cleared into multiple intelligence compartments. He may have been in the Army Counter Intelligence Corps and may have had access to information from the Gehlen network." The officer nodded once, vigorously, yes. Was Andy doing counter-intelligence work? "No. Counter-intelligence work requires the active, full-time search for spies. Andy was in scientific intelligence. That is why he was cleared into all those compartments." Was Andy engaged in intelligence collection in France? "It is possible that he had a small, elite network of contacts." If Andy was doing scientific intelligence collection on the Soviet Union in the late 1940s and 1950s, it would explain his strong interest during the last two years of his life in the unclassified research into the state of Soviet ballistic missile and air defenses in precisely that period. He may have been trying to see what academic research today knew and did not know about what he knew when he was working on this subject.

Another retired intelligence officer from a friendly country, when asked about the possibility that Andy might have worked in counter-intelligence said no, counter-intelligence was done mostly by low-level officers who watched people, though sometimes a few higher-level people were involved in counter-intelligence, the George Smileys. As for running a network of agents, that required serious training in trade craft which Andy had not had, but foreign intelligence could be collected through foreign contacts even if it was not a network of clandestine agents, and Andy might well have done that as a result of his time in France.

Another reasonable conclusion is that Andy, in parallel with his work on targeting at RAND, worked as a scientific intelligence officer for the CIC in the late 1940s and continued that work at RAND. His work drew on intelligence from many sources, and was informed by knowledge of the advanced military technology programs in the United States. He continued to report intelligence he collected from his contacts in France. He may have been connected to the Farewell dossier that provided the United States with information from French

sources on Soviet scientific technical intelligence collection priorities. At the initiative of a CIA officer, Gus Weiss, this information was used to channel bad technology to the Soviet Union in the late 1970s and early 1980s. Gus Weiss was a fleeting presence at the Hudson Institute in the early 1970s. Hudson at that time was run by Herman Kahn, Andy's old friend.

Yet more speculative is the professional accomplishment of which Andy might have been most proud. It may have been a clandestine intelligence collection effort. What follows, to repeat, is my own effort to imagine what might have happened. Andy never mentioned anything beyond what I specifically cite.

For many years, on repeated occasions, Andy would emphasize the importance of understanding the organizational behavior of the enemy, and conclude by saying "for example, the Soviet Union did not trust its Air Force officers with nuclear weapons." Short-range nuclear weapons could not be used by a renegade officer to attack Moscow, but long-range Soviet nuclear weapons were a threat to the Soviet Union itself. The Soviet Union had to have long-range nuclear weapons, but this was a problem. It was one thing to put nuclear warheads on Soviet missiles in silos. You could have the KGB guard the officers who operated the missiles. Soviet missiles on submarines could have been built so that the submarine commanders could not change their targets. But "the Soviets never put a nuclear weapon on a long-range bomber." I never had the wit to ask Andy how he was so sure. The answer may have been revealed by what the Soviet Air Force did and did not do in peacetime and in time of crisis.

American strategic bombers carrying nuclear weapons routinely flew in exercises and on alert, and there were nuclear weapons accidents. A B-36 carrying a first-generation atomic bomb crashed in Alaska. A B-47 carrying a multi-megaton nuclear weapon crashed in North Carolina. A B-52 carrying four thermonuclear weapons crashed off the coast of Spain. Soviet bombers also routinely flew in exercises, some coming close to the borders of the United States. There are a few officially recorded crashes of the Soviet long-range bomber, the TU-95, during the Cold War after its flight testing was completed. Two occurred while on training exercises, one was on a maritime patrol flight, and one is listed simply as "military." Because

of the risk of unreliable pilots or simply of accidents, the Soviet Union might not have put nuclear weapons on bombers in peacetime. But if war was imminent, the Soviet Union might have armed its bombers. The closest the United States and the Soviet Union came to war was during the 1961 Berlin and 1962 Cuban crises. It is assumed in academic writings that the Soviet Union went to a higher state of military alert during those crises, including a higher state of readiness of Soviet offensive nuclear forces.

Andy was involved in early Cold War programs that would have made him aware of Soviet peacetime and crisis activities associated with a possible nuclear attack on the United States. Andy often said that an adequate history of the Cuban missile crisis had yet to be written, that the crisis went on for months after "the missiles of October," and included activities by the Strategic Air Command to monitor Soviet nuclear forces in Cuba and worldwide. He mentioned once that he had attended a meeting of the Killian Committee in 1957 and 1958, the scientific advisory group that evaluated American capabilities relative to a possible Soviet attack after the launch of Sputnik. When I told him about a book, *Blind Over Cuba*, that discussed the mission planning process in 1962 for determining whether and where to fly reconnaissance flights over Cuba, Andy said, "I know all about that." Given the hypothesis about Andy's career as a scientific intelligence officer, it is extremely likely that he was involved in efforts to develop American intelligence regarding Soviet strategic nuclear warfare capabilities around the time of the Cuban missile crisis. Finally, we know now that the United States penetrated the territory of the Soviet Union in the 1950s to learn more about its nuclear war capabilities. President Eisenhower ordered an end to the use of manned aircraft over the Soviet Union after the Gary Powers mission was shot down in May 1960. Air operations on the periphery of the Soviet Union continued, however, and may have experienced "navigational errors" that brought them into Soviet air space. In addition, American nuclear submarines began operations on the maritime periphery of the Soviet Union in the 1950s, and those operations appear to have continued until the end of the Cold War as part of the "Maritime Strategy."

If the Soviet leaders were ever going to put a nuclear weapon on a long-range bomber, they would have been most likely to have done so in the crises of 1961 or 1962. Did they?

During the Cuban missile crisis, the Soviet Union may have wished to demonstrate to the United States that the Soviet Union was ready to initiate a nuclear attack on the United States if the United States pushed the Soviet Union too hard, by attacking Soviet forces in Cuba, for example. To do so, the Soviet Union may have flown strategic bombers toward the United States during the crisis. The primary attack routes from Soviet forward air bases to the United States went over Siberia and the North Pole. If so, a Soviet bomber might have crashed in Siberia around October 1962. It may have crashed in the Soviet Union or in the Arctic Ocean. American radars and signals intelligence would have been closely monitoring any flight of any Soviet strategic bomber in those crises, and could have located the approximate site of the crash.

The United States began operating nuclear submarines in the northern coastal regions of the Soviet Union as early as the first Arctic voyages of the *Nautilus* and the *Skate* in 1958 and 1959. These submarines could surface through the ice cap where the ice was not too thick.

The Navy had also demonstrated the ability drop a technical intelligence team in the high north five months before the Cuban crisis. In May of 1962, the CIA, in connection with the Office of Naval Intelligence and the Defense Intelligence Agency, initiated PROJECT COLDFEET. The official press release stated that the United States became aware that the Soviet Union had abandoned an Arctic ice station that had drifted too far north. Those Soviet stations were operated to map the ice sheet to locate the areas where the ice was not too thick for submarines to surface and to detect nuclear submarines operating under the Arctic ice cap. COLDFEET was a project to use a converted B-17 bomber to parachute in a team of technical intelligence officers to examine the abandoned Soviet ice station. The team would be extracted using a system in which an airplane snagged a cable lifted by two poles that would then haul in team members tethered to the cable. According to a CIA press release, COLDFEET was successfully conducted in May of 1962. This suggests that a joint

quick reaction operation might have been conducted. A technical team could have been delivered, by submarine or aircraft, at the site of a Soviet bomber that had crashed before the Soviets got there. The operation would have been very risky but, if successful, of great value. The air-dropped team would search the bomber and call in the submarine, and the submarine could haul out the nuclear weapon or weapons, if they were there.

There is the not-so-incidental issue of the weather in the Arctic in October. Cold temperatures and snow often set in in October, and could have made a parachute drop too hazardous. If the United States knew where the bomber had crashed and the Soviets did not, the mission might have been postponed until the spring of 1963. Andy often made reference to the fact that American intelligence activities continued for many months after October 1962, and he may have been referring to the hypothesized mission that may have occurred in 1963.

If such a mission was carried out in 1962 or 1963, reached the bomber, and discovered that it had no nuclear weapons on board, the scientific intelligence officer who planned that operation might well look back on it as the professional accomplishment of which he was most proud, even though the story could not be told.

But Andy Marshall was also the man who helped devise and implement the competitive strategies that hastened the collapse of the Soviet Union. His office produced the most insightful analyses of the military balance during the Cold War. Could a mission to reach a downed bomber really be his most impressive accomplishment? Moreover, why could the story not be told fifty years later, long after the collapse of the Soviet Union, and after the issue of weapons on Soviet bombers was an obsolete issue? The answer to both questions is that the incident in 1962 or 1963 may have had a coda in 1969.

Henry Kissinger brought Andy into the White House to review and direct American intelligence programs from the White House. There had been a border clash between China and the Soviet Union in March of 1969 that had continued and escalated. Kissinger states in his memoirs that at the height of this confrontation, the Soviets operated SS-4 nuclear-capable missiles on the western border of China. Chinese Communist Party officials evacuated themselves from the major cities of China. The work of Dima Adamsky for the Long

Term Strategy Group, using published Russian-language sources from the former Soviet Union, convincingly demonstrated that in 1969 the Soviet Union conducted a campaign to convince the world that it was ready to conduct a nuclear attack on China if it did not back down. On September 29, 1969, Kissinger wrote a memo to President Nixon. First, "our contingency planning for major Sino-Soviet hostilities is well along…." The Soviets may not have made up their minds about whether to attack China. "Second, the Soviets may be using us to create an impression in China and the world that we are being consulted in secret and would look with equanimity on their military actions.

"I believe we should make clear that we are not playing along with these tactics…. The principal gain in making our position clear would be in our stance with regard to China…. Behavior of Chinese diplomats in recent months strongly suggests the existence of a body of opinion, presently submerged by Mao's doctrinal views, which might want to put U.S./Chinese relations on a more rational and less ideological basis than has been true for the last two decades."

In October 1969, the United States ran a major nuclear exercise just as the Sino-Soviet crisis reached its point of maximum danger. When I asked Andy if that nuclear exercise was related to the Vietnam War, which is the conclusion of the academic study, *Nixon's Nuclear Specter*, or to China, he said, "I think it was China related." Kissinger is also reported by a close associate of Andy to have said, "Andy Marshall is the only man who can bring the deliberations of the American government to a halt by uttering a single sentence."

All this is fact. What follows is, again, speculation.

My speculation is that in October 1969, Andy was present at a meeting reviewing American efforts to deter a Soviet attack on China, and someone mentioned Soviet bomber flights that were being conducted to threaten the Chinese nuclear weapons development and test centers in Xinjiang Province. The United States at that time conducted SR-71 reconnaissance flights over those areas of China for its own intelligence-collection purposes. The SR-71s were available in the theater. If the United States had an hour or two warning of the movement of subsonic Soviet bombers toward those Chinese installations, the Mach 3 SR-71s could take off and intercept those

bombers over China. The sonic booms from the SR-71s flying close to the bombers could cause serious problems for the bombers, and might even make them crash. This would be a powerful signal from the United States to the Soviet Union and to China, that the United States could provide significant assistance to China if the Soviet Union prepared to attack China. At this point, however, an objection must have been raised in the discussions. What if the Soviet bombers had nuclear weapons on board? What if the bombers crashed and nuclear weapons detonated in China as a result of American actions? The United States might be humiliated, there might be escalation, and even a nuclear war. It was too risky.

Andy Marshall, to recall, was working for Henry Kissinger at this time, and may have been a participant in these discussions. Andy, a man who ordinarily would not say crab if his mouth were full of it, as one of his military assistants once said, might have brought the deliberations in the White House to a dead halt by saying, "We know that Soviet bombers do not carry nuclear weapons because we found none on the TU-95 that crashed in Siberia during the Cuban missile crisis."

If so, the United States could execute the intercept with acceptable risks. The Chinese leadership was profoundly hostile to and suspicious of the United States. Words alone from the United States that it would be a good friend to China could not be believed, while the Soviet military threat was real. The demonstration that the United States would take dramatic and effective military action to help China against the Soviet Union at the moment of maximum danger might well have been the key factor leading to the Chinese willingness to receive Henry Kissinger, and then Richard Nixon, and to enter into a de facto alliance with the United States. Andy Marshall, uniquely, may have been the man who ran the operation to reach a Soviet bomber in 1962 or 1963, and who was in a position in 1969 to bring that knowledge to bear at a decisive moment to affect policy. It may have been the basis for his subsequent association with other Americans in the clandestine services who worked to develop the strategic relationship between the United States and China. Andy may have reflected that the actions taken by the United States in 1969 remained diplomatically sensitive up to the time of his death, and so left it to others to tell what might have been his story.

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Andrew W. Marshall: A Memory

Dmitry Ponomareff

Assessing, to cite the Japanese, a living national treasure is a great honor and a greater burden. Personal admiration for a life so well lived urges one toward hagiography—only the visage of disappointment spreading across Andy's face precludes taking this easy option. Perhaps a focus on his unique and humanizing traits will serve best to honor my teacher of thirty-four years.

For an intellectual who called for ruthless culling of outdated conceptualizations, theories, strategies, and organizational arrangements, Andy was not one to easily change his personal preferences, logic notwithstanding. At a certain point Andy decided that huge, heavy, and ugly hiking boots were sufficiently comfortable that the ghastly combination of the boots and business suits was fine, despite Secretary Rumsfeld's negative observations. More worrisome was the instability of the combat boots in tight and irregular surfaces—I will never forget my fear and the panicked expressions on the faces of senior French officials as Andy tumbled quite a long way down a shiny (and slippery) marble staircase. Lucky Ann Smith was with us in Paris, and tacitly the two of us agreed that we would get rid of the damn boots. It took us a long, long time but the day came when Andy brought me a wrapped box from Ann—the sparkle in his eyes suggested something special—indeed, it was a single boot with a note that she wanted me to join her in the pleasure of throwing out the boots. In Ann, Andy was lucky to find a true and caring soulmate.

Those who knew Andy in the 1990s and earlier were able to judge his attitude toward the Department of Defense and his role

in it by the month that he selected for Mary and him to go back to California—nine months meant all was well and six months if not. Upon being asked to join his staff I discovered that this was a planning and not an operational calculation—since I was reluctant to accept his offer if he was going to be leaving shortly, he assured me that he would stay at least one more year (turned out I retired before him) and we both chuckled knowing that a year in bureaucratic time is an eternity.

Over my years with Andy I learned that California served as a rolling option and that it was an important tool in his ability to be independent and to provide honest, if not always welcomed, advice. Senior leaders find it difficult to risk their positions and influence by championing unpopular positions—to his great credit, Andy never allowed even his unique position to become a golden cage—he always nurtured the thought he had options that would continue to fulfil his career and life.

I learned early on about Andy's commitment to the truth—to providing the best advice possible. Being new, I felt obliged to note that the information that we were about to provide a Secretary of Defense was not what he was looking for and that the Secretary was not one to suffer divergent views. Since the question was in my area of expertise, Andy asked if I was comfortable with the answer. He was satisfied when he was told that all the cognizant government components agreed with the answer. His order was classic Andy: "Send it—we are here to advise and not to please." Honor has multiple definitions—for me staying true to your mission regardless of cost and upholding what is true rather than convenient is a mark of an honorable person.

I was long puzzled by Andy Marshall's almost missionary dedication to accuracy and completeness. No matter how good an analysis was, Andy pushed for more thinking and more research to make it as perfect as the chair in Plato's cave. It seemed excessive even by the exacting standards of Anglo-Saxon academic tradition and even his belief that the quality of today's products was far inferior to those of previous generations.

The real answer came in one of our last discussions when, speaking about the American cemeteries in Normandy, I saw Andy's

eyes tear up for the first time. He spoke of his generation and the blood price paid to secure freedom and peace on the Continent. In a moment of enlightenment, it because clear to me that he saw it as his sacred duty to provide the senior leadership of the Department of Defense the most accurate, useful, and comprehensive advice and analysis of the key challenges facing our military today and in the future. It was the usefulness and completeness of his work that I believe he saw as precluding the need for our warriors of today to risk paying the ultimate price by positioning our nation to avoid the need for combat. And, if war came, to help our leadership set the right goals and for our forces to realize them with the least possible loss to ourselves.

Finally, despite snide observations (almost inevitably made by people with no personal knowledge of Andy Marshall) that the Office of Net Assessment highlighted gloomy scenarios to increase DOD's budgets, Andy's objectives transcend the daily bureaucratic battles that preoccupy many of our leaders. Addressing the issue of unpleasant future scenarios Andy would gently note that it was the responsibility of the Department of Defense to prepare for rainy days—sunny days tended to need far less planning and that there are far more players willing to take on such pleasant tasks. Far less recognized was Andy's insistence that his analysts identify our opponents' weaknesses (not just strengths) and American strengths (and not just weaknesses) to provide a truly balanced net assessment of our and our competitors' capabilities. Andy never viewed his work and his advice as instruments for aggressive behavior. He saw it as his responsibility to place our nation and our people in the most favorable position, regardless how challenging the situation may be, to deter aggression against the U.S. or, if irrationality prevailed, to give our military the best chance to successfully protect our country.

Like other members of the Greatest Generation, Andy Marshall, through his life, work, and his enduring contribution to how future generations of strategic planners can strive to protect the American nation, served as a living embodiment of the West Point's motto—Honor, Duty, Country. Such people will not pass through our lives again.

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Fortunate to Have Him

Andrew Krepinevich

My introduction to Andy Marshall occurred in 1986 while serving as an Army major on Secretary Weinberger's staff. Assigned as editor-in-chief of the secretary's Annual Report to Congress, I was responsible for tasking various staff elements of the Office of the Secretary of Defense and reviewing their submissions. It was then that I met Lieutenant Commander Jaymie Durnan, Andy's point man for the Office of Net Assessment's contributions, which were head-and-shoulders above most of the other staff elements. Thus, when tasked with overseeing the production of Soviet Military Power, the secretary's public statement of the Soviet threat, I decided to get as much input from Andy's office as the traffic would bear.

I secured an appointment with Andy with an eye toward incorporating his work on regional and functional balances into the document. He agreed, but I could tell he was clearly not amused to be supporting what some critics called "Caspar's Cartoon Book." Still, ONA's contributions transformed the publication from simply a laundry list of "bad things" the Soviets were doing to an informed (albeit unclassified) perspective of the military balance.

When my tour on the secretary's staff was coming to a close, Jeff McKitrick, then on Andy's staff, was departing to serve in the Office of the Vice President. We approached Andy with the idea of my filling Jeff's slot, and I was pleasantly surprised to find that Andy was willing to take me on. (Years later I would joke with him that the only reason he hired me was to get his office out of supporting Soviet Military Power. He neither confirmed nor denied.)

For a military officer, being on Andy's staff was an experience unlike any other. You operated, to a remarkable extent, absent close direction. Andy gave you some guidance on the aspect of the military balance he wanted you to address, but there was no "net assessment position" on an issue. Nor was Andy going to spoon feed you on how to do your work. This often led to frustration on the part of the military staff who were typically tasked with providing "ammunition" for a particular Service position, and given detailed guidance on how to go about accomplishing a tasking. Working for Andy, one found oneself dropped into the deep end of the analytic pool. You either figured out to swim in the ONA waters, or you sank. If you failed to gain his confidence, he generally left you alone in the hope that, at some point, you would become productive.

Early on during my time at ONA, I'd walk past Andy's office and notice him sitting in that overstuffed chair of his, typically with some reading material in his lap. Sometimes he'd just be sitting there. This struck me as odd, as most senior Pentagon officials spend their days shuttling from meeting to meeting—engaging in THE PROCESS!—or taking briefings. Andy seemed to be "out of the loop."

I eventually realized that, in a department where process dominated, Andy was maximizing the time he spent *thinking*! His influence was exercised behind the scenes, through the "hidden hand" approach. It became clear that Andy's ideas had shaped, and were influencing, many of America's leading strategic thinkers. The office, "ONA," was just the tip of the iceberg. Andy had developed a network comprising many of our country's best and brightest minds on a wide range of areas bearing on national defense. On any given day you could find the likes of Graham Allison, Clayton Christensen, Sam Huntington, Albert Wohlstetter (and hopefully his wife, Roberta) or Charlie Wolf stopping by. If you were lucky enough to accompany him on a trip, you could encounter "big brains" like Joe Bower, Fred Iklé, Ernest May, Richard Neustadt, Henry Rowen, Richard Rumelt, and Jim Schlesinger.

Of course, the last person who would talk about Andy's influence was Andy himself. His modesty was all the more remarkable in a town where nearly everyone is perpetually engaged in acts of self-promotion. In my last meeting with Andy prior to departing ONA, I

thanked him for the enormous influence he had made on my professional and personal development. Regarding the former, he said he never thought his ideas were all that striking. My response was to say that profound ideas may seem unremarkable to the brilliant individual who introduced them. For the rest of us, they were the product of remarkable insights.

Andy could be unnerving. Occasionally I'd be in my little office and he would just wander in and sit down in the overstuffed chair in my office and just look at me. No words. Sometimes a thin smile crossed his face. The first time this happened, we just stared at each other for what were probably ten seconds but which seemed hours to me. My default was to update him on my assessment. This seemed to work and eventually I got used to Andy's visits—although I did contemplate getting rid of the overstuffed chair.

And he would do this with others. I recall a dinner we hosted during bilateral discussions with the Germans. Andy began by sitting silently across the table from his counterpart. After a few moments, the head of the German delegation just started babbling along. I thought the poor fellow was going to faint dead away. Another time, when we were in London for bilateral talks with the Brits, Andy invited us to join him for dinner. We were to meet in the lobby at 6:00 p.m. At 5:50 a contractor—a nervous talker type—who was with us called my room and said I needed to get down to the lobby right away. When I asked if I'd mistaken the appointed time, he told me no, but that Marshall was sitting there and was playing the role of the Sphinx.

Andy's office always looked disorganized. Papers stacked everywhere, oftentimes even on the overstuffed chair reserved for his guests. (It may have been that he viewed his "guests" at any given time as the thoughts of those who had sent him papers he deemed worth reading.) As I came to know Andy better, I'd tell him that if OSHA ever surveyed his office, they'd cite him and his paper towers as a safety hazard. His response was his signature, "Yeah, right."

Despite being featured in *Wired* magazine, Andy was not caught up in the IT revolution in a personal sense. Although he eventually bought a cell phone, I can't ever recall seeing him use a personal computer. When the IT revolution hit the Pentagon, a PC was

dutifully installed in Andy's office. When I'd stop by, it was never turned on. One day, to my surprise, I found the computer on and the "swimming fish on a black background" screen saver at work. I told Andy that I was glad to see him getting into the new technology. He glanced at me: "Yeah, right." (I soon found that his secretary had booted the machine up in a forlorn attempt to get Andy engaged. The next time I visited, the fish, alas, were gone.)

Andy's capacity to call up obscure facts and names was incredible. His eyes would narrow, perhaps even close, and often times he would put the tip of one index finger atop the other. And there he would have it! I suspect his remarkable recall is what enabled him to pull a particular paper out of one of his "towers" when needed.

Andy was the consummate gentleman, unfailingly polite, even to those who didn't merit it. On those occasions when I'd ask for his opinion on a draft, he'd always turn it back promptly, with insightful comments. He'd also identify errors in spelling and grammar.

After Andy left ONA, we continued to get together, sometimes for lunch near his condo, and increasingly at his place. It reminded me of his office. Books and paper towers everywhere. He continued keeping a busy schedule, and I always called in advance to make sure he'd be free. Still, phone calls would interrupt our conversations, and our time together always seemed to pass too quickly. Hopefully we made the most of it. I think we did.

While defense secretaries rarely mentioned Andy, nearly all came to value his contributions. When rumors emerged in 2013 regarding the administration contemplating "shutting down" ONA, six former defense secretaries wrote to Secretary Hagel to inform him that "We and our country have been fortunate to have such a staff element, which has repeatedly paid enormous dividends during some of the most challenging periods in our recent history." Fortunate, indeed.

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Remembering Andy

Graham Allison

When I remember Andy, I think: friend, mentor, inspiration. He has been a bright thread through my entire intellectual odyssey. He and his wife, Mary, were the only two witnesses at my wedding to the woman who has been my wife for the past half century. He had a formative influence on my understanding of how the world works: governments, other larger organizations, and even universities.

I first met Andy in 1967 when I showed up as a summer intern at RAND. As a graduate student in political science who had been seized by the challenges of national security, in particular the possibility of nuclear war, I had spent my first summer internship with Herman Kahn at the Hudson Institute, and my second in Robert McNamara's Department of Defense. At Harvard, I had the good fortune to have as teachers and mentors Henry Kissinger, Tom Schelling, Richard Neustadt, Ernest May, and Bill Kaufmann, among others.

But for the understanding of nuclear weapons' impact on international security, RAND was seen as the Vatican for the wizards of Armageddon. From Bernard Brodie's 1946 book, *The Absolute Weapon*, to Herman Kahn's *On Thermonuclear War*, Roberta Wohlstetter's *Pearl Harbor*, and Albert Wohlstetter's reflections on "The Delicate Balance of Terror," RAND had been the epicenter for thinking the unthinkable. As Andy later observed: "While the group of real strategists at RAND probably never numbered more than about 25, the overall quality, in sheer intelligence and intellectual breadth, was simply astonishing."

Following Tom Schelling's advice, I applied and was accepted as an intern in the economics department—where he advised me to seek out a quiet, unassuming but profound thinker named Andrew W. Marshall. Fortunately for me, at the end of our first meeting, Andy welcomed me into his academy. I had been wrestling with the pathbreaking work of Herb Simon, Jim Marsh, Richard Cyert, and the Carnegie School, and he had been using their concepts to better understand Soviet military behavior, particularly the development of the Soviet nuclear arsenal. Before the month was out, he had invited me to help work on his attempt to challenge the quantitative planning, programming and budgeting systems frameworks that dominated analyses of Soviet forces and attempts to understand its competition with the U.S. These efforts to apply insights about organizations, routines, standard operating procedures, and the inherent biases and momentum that shaped real military forces coalesced in what ultimately became a major component of my own thesis.

The following summer I returned to RAND to work with Andy, and then stayed for six months during which I finished my Ph.D. thesis that was the foundation of my book *Essence of Decision.* As I state in the foreword of the book, Andy was the most significant intellectual force in shaping what became my "Organizational Process Model" (Model II).

During that year when we were in Santa Monica, he and Mary welcomed my bride and me into his inner circle. He had become fascinated by Sichuan cooking, and the four of us repeatedly sampled key dishes at the best Chinese restaurants in Los Angles. His favorite dish was Kung Pao Chicken, which he soon learned to make in his own kitchen precisely to his taste.

In the culture of RAND at that time, if Andy regarded you as a colleague, that was more than enough for everyone else. Thanks to his blessing, I was taken seriously by the other leading thinkers there, including Albert and Roberta Wohlstetter, Jim Schlesinger, Richard Nelson, Sid Winter, Bert Klein, Charlie Wolf, Alex George, and many others.

Back at Harvard, the new director of the newly created Institute of Politics had created a faculty study group called the May Group—chaired by the international historian Ernest May—that included the

strategic stars from Harvard and MIT. It was my good fortune to be asked to serve as rapporteur. This group had been formed to try to understand what it called the "bureaucracy problem"—which was the term this group used for their puzzlement about how the best laid plans of the "best and brightest" had led the U.S. into the quagmire in Vietnam. Andy was invited to be an honorary member of the group, and in the several sessions in which he participated, he helped the others appreciate the deeper ways in which organizations had shaped these fateful decisions.

In 1969, when Richard Nixon asked Kissinger to become his National Security Adviser, Kissinger invited Andy to join his NSC staff to help the White House better understand the intelligence products it was receiving. As Kissinger noted: "Andrew gained the confidence of every significant student of strategic affairs in Washington." When Jim Schlesinger became Secretary of Defense, he asked Andy to move to the Defense Department and establish the Office of Net Assessment. As a colleague and consultant, I continued working for Andy as he developed three big ideas: organizational process analysis of military organizations, especially in developing long-range strategic nuclear weapons; long-term competition between the Soviet Union and United States; and net assessments.

My book *Essence of Decision* was published in 1971. Having been the seminal influence in my own statement of an "Organizational Process Model" (Model II) as an alternative to the prevailing "Rational Actor Model" (Model I), Andy became the most vigorous promoter of the book within the Defense Department and military services. In a series of classified studies, some of which I helped develop, he demonstrated how this framework could be used to better illuminate what weapons the Soviet military had been acquiring and what it was likely to do going forward.

Since Andy lived in a classified world and rarely wrote for a public audience, he was an enthusiastic co-conspirator in my book's unclassified illustrations of the ways in which Model II can be used to understand how the weakness of the Soviet air force within the Soviet military establishment should have led to greater skepticism in U.S. intelligence estimates of their acquiring a large bomber force in the 1950s (thereby faulting those predictions of a "bomber gap");

the fact that missiles were controlled until 1960 by the Soviet Ground Forces, who had never had an interest in an intercontinental mission (thereby faulting U.S. intelligence predictions of a "missile gap"); and the likelihood that. since the Soviet ABM system was being purchased by the Soviet Air Defense Command (PVO) the Soviet Union would have a more ambitious anti-ballistic missile deployment than the U.S. intelligence community was forecasting.

When Ronald Reagan was elected in 1980 on a campaign to rebuild American military strength, he appointed Casper Weinberger (who had been his budget director when he was Governor of California) to be his Secretary of Defense. Weinberger and I knew each other from Harvard, where I was a young dean trying to build what became the Kennedy School of Government, and he a distinguished graduate of the College and Law School. Weinberger had never focused on international security or defense. But he shared Reagan's concern that after a substantial Soviet military buildup, and an American defense effort that shrunk as we retreated from Vietnam, this created unacceptable risks for the U.S. As he made his way back and forth between Washington and his summer house in Maine, Cap, as he was called, engaged me as what he sometimes called his "tutor."

In time, I agreed to accept a formal appointment at DOD, becoming his "Special Adviser," spending a day with him at the Pentagon every week and two or three days each week during the summer. Building on earlier work in which Andy had taken the lead, but I had been his key "worker," we had begun refining an idea that ultimately became known as "competitive strategies."

Weinberger had been criticized for dramatically increasing the budget—by approximately 50 percent in four years—without any strategy. When appointing me, he announced that I would be his "strategic reserve." So I took this as an opportunity to launch what Andy and I had been doing under the banner of "competitive strategies." That became the centerpiece of the Secretary of Defense's Annual Report to Congress at the beginning of Reagan's second term. As the draftsman of that document, I wrote: "competitive strategies capitalize on our long-term strengths in ways that exploit Soviet long-term weaknesses. The hallmark of this Administration's defense

program in the second term will be the search to identify and implement competitive strategies for deterrence."

To try to make this happen within what we understood was a decidedly Model II DOD, we established a Competitive Strategies Council, chaired by Weinberger himself and including the Chairman of the Joint Chiefs of Staff, the service secretaries and their chiefs, and other key officials. Unorthodox as it was, Weinberger made me Chairman of the Competitive Strategies Steering Group, which included Andy, the Assistant Secretaries for Policy and International Security Affairs, and representatives from the services. In a series of task forces Andy and I designed, the Council took on key issues, beginning with ways of countering the Soviets' overwhelming advantage in conventional capabilities in Western Europe, and the opportunities for non-nuclear strategic capabilities based on precision conventional weapons and long-range delivery systems to complicate the strategic nuclear balance. Each Task Force began with an organizational analysis of the Soviet adversary and an attempt to identify long-term weaknesses. Each recommended specific investments in U.S. weapons and forces, including operational concepts and practices for integrating new capabilities into war plans.

In 1993 when Bill Clinton became President, he asked me to become his Assistant Secretary of Defense for Policy and Plans with a primary focus on the former Soviet nuclear arsenal that had been left outside Russia when the Soviet Union collapsed in December 1991. That proved to be a consuming challenge. But as I pursued it, in the peculiar ways of the Defense Department, at a staff meeting in 1993, the Under Secretary for Policy announced that as part of the Aspin Defense Department's effort to reduce defense spending, this had to include OSD as well, and that he intended to abolish the Office of Net Assessment. For me, this triggered a battle royale that ended in my going to Secretary Les Aspin and persuading him to keep Andy Marshall and the ONA with it reporting to him through the Assistant Secretary for Policy and Plans. When I went to Andy to explain to him the oddity in which I was now nominally his boss, his wry smile suggested that he thought this was almost as bizarre as I found it. I reminded him of one of his favorite sayings: there is only so much stupidity one person can prevent each day. As it worked out,

he was able to sustain the base that allowed him to continue trying to drive home his insight about the military technical revolution and its consequences for the long-term competition with the Soviet Union.

In 2004, when I published *Nuclear Terrorism*, I dedicated the book to four "pioneers in prevention," of whom Andy was one. And shortly thereafter, when I began trying to take China seriously, Andy was one of my most insightful tutors. When we talked about the China challenge, he would always remind me—correctly—that I was coming late to the party. I'd remind him—again correctly—that I was a slow learner. But when I saw him for the last time just a month before he died, he had read my 2017 book, *Destined for War: Can America and China Escape Thucydides's Trap?* And after giving me a pointer on this and another on that, I was gratified that at the end he said: you passed.

I continue to think of him and all he taught me and to give thanks for having had such a friend and mentor.

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Andy Marshall and the Ambivalence of Experience

Jim Powell

I NEVER HAD FELT MORE PREPARED for a meeting. A month or so into my tenure as a military adviser in the Pentagon's Office of Net Assessment, I sat down with the director to discuss a slate of potential research projects. My previous assignment had been as a speechwriter for the U.S. Army Chief of Staff, a job driven by the churn of three to four deadlines per week and thus one that demanded furious paddling to stay afloat. In contrast, what I now presented to my boss, Andy Marshall, was the harvest of days and days of almost uninterrupted (and thus for me, unprecedented) thought.

The memorandum I shared suggested some lines of inquiry related to strategic competence and organizational change—subjects that seemed manageable, relevant, and, given my limited depth of knowledge, struck me as fairly unexplored. Yet Andy wasted little time communicating that I had mistaken sophisticated prose for original and fruitful ideas. He listened and gave my two pages a courteous review before handing them back to me. "Yes," Andy declared with a smile, "I think a study on China and PLA ground forces would be of interest," dismissing every word I had written with not so much as a murmur of acknowledgment. My initial impulse steered me toward an attempt to defend my list of topics, but something deeper in my subconscious grabbed the wheel just in time as I dimly understood the criticism that Andy had rendered but, characteristically, had not *said*.

Over the few seconds that my boss's pronouncement hung in the air, I wracked my brain for a way to harness my experiences as a World War II historian and campaign planner in Iraq and apply them to the proposed topic. Alas, no immediate connections emerged. "But, sir," I feebly protested, "I don't know anything about China and the PLA." Nonplussed, Andy seemed to confirm that, indeed, I knew even less than I thought while suggesting that I could learn far more than I imagined. "Well," came the reply, "at least you'll be objective."

Though a bit cavalier on the surface, Andy's rejoinder revealed a considered ambivalence toward experience, particularly toward the *limits* of experience applied uncritically. "What good is experience if it is not directed by reflection?" Frederick the Great is said to have asked. "Thought, the faculty of combining ideas, is what distinguishes man from a beast of burden. A mule who has carried a pack for ten campaigns under Prince Eugene will be no better a tactician for it, and it must be confessed . . . that many men grow old in an otherwise respectable profession without making any greater progress than this mule." While I never heard Andy refer to Frederick's hapless mule, the case resonates with his perspective on what national security professionals had seen and done and the relative value of these experiences in charting a useful path toward an uncertain future.

To be sure, Andy relied on his own experience in tackling the confounding problems of the day. Not surprisingly, he tended to view issues through a Cold War lens. Thus, when we discussed the case of a rising China and the evolving roles and capabilities of PLA ground forces, Andy considered it in terms of strategic competition. That is to say, he believed that the United States had a compelling reason to undertake in peacetime a thorough exploration of possible approaches to preserve and perhaps amplify a position of advantage vis-à-vis China in decisive areas of competition over the long term. His experience not only informed but also underpinned a logic of applied skepticism when it came to studying prospective rivals. The factors shaping Soviet behavior during the Cold War were dynamic and complex, yet earnest and well-meaning American efforts to understand this behavior typically drifted into a bog of oversimplification. Consequently, several of our assumptions and deductions regarding Soviet intentions and capabilities were mistaken—even

dramatically so, as Andy himself had discovered in the early 1990s through consultations with Russian officials about nuclear doctrine. It turned out that, for all we knew about the Soviets, we knew much less than we thought, and not all of that knowledge was accurate. Considering the massive scope and scale of that sustained decades-long effort, Andy viewed with concern the comparably marginal attention we had devoted since the end of the Cold War to understanding the Chinese. That's what experience had told him.

The trouble with experience, though, is that we casually use it to validate what we suspect and then halt the process of critical inquiry there. Sensitive to the pitfalls of unsubstantiated self-assurance, Andy employed his experience in a way that alerted him to inconsistencies and thus prompted him to adopt a more circumspect frame of mind. He was all too aware that the expert could be wrong; that the background which provided a foundation for expertise could itself constrain strategic thinking and hamper one's ability to imagine the wide array of a complex event's causes and implications; and that different kinds of questions required different methods of analysis and thus not a single tool or model brought clarity and understanding in every circumstance.[1] Experience allowed one to spin a web of rich connections across time, space, and professional disciplines, leading to new insights. Yet for the mind that accepted its counsel too readily or in isolation, experience carried within every enlightening thread the potential to weave a thickened web of captivity.

So, how to leverage experience while avoiding the intellectual traps of doctrinaire thinking and narrow-mindedness? Andy prescribed broad study as one possible antidote, highlighting "history of all kinds"—military, economic, technological, and others—as a key suggestion, along with "specialized studies of the strategic cultures" of rivals and allies alike.[2] What is more, I can attest that Andy followed his own advice into his nineties. Books lined shelves from ceiling to floor along an entire wall of his office and overflowed to form numerous stacks on a large table in the middle of the room. Built over the

1 See, for example, Andy's essay on "Strategy as a Profession for Future Generations" in *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert and Roberta Wohlstetter*, ed. Andrew W. Marshall, J. J. Martin, and Henry S. Rowen (Boulder, CO: Westview Press, 1991), 305, 307–8.

2 *Ibid*., 310.

course of a long career, this collection reflected Andy's wide-ranging interests and included works of history as well as politics, philosophy, science, business, and regional studies. He replenished it on a regular basis, and these purchases appeared a couple of times each month on a small table that served as an in-box outside his office. I nonchalantly leafed through volumes that caught my eye before the boss had opportunity to grab them on his way home. Among others, I recall perusing renowned psychologist Daniel Kahneman's *Thinking, Fast and Slow*, a tour de force on human behavior and decision making; *Einstein's Clocks and Poincaré's Maps* by Peter Galison, a twin biography that chronicles the development of the theory of relativity; and Geoffrey Parker's *Global Crisis*, a history of the seventeenth century emphasizing the role of war and climate change in worldwide catastrophe. A well-read copy of *The Moral Sense*, by political scientist James Q. Wilson, was plucked from a shelf to linger atop a reading stack around the time of the author's death in 2012.

Each new appearance bore witness to Andy's incessant sifting of experience and what it taught him but also, to me, served as a sort of book review. Not that the mere presence of a book on a table endorsed its contents. Rather, the fact that an author's argument had piqued Andy's interest said something. Despite a half-century of service as a national security professional, my boss never admitted that he had "seen it all." Yet he had seen more than anyone else I knew. His deliberate intellectual engagement ascribed a certain relevance in a world brimming with noise and nonsense. Such engagement with books, moreover, expressed an admission on Andy's part that he still had much to learn—or relearn. One morning, in gaping wonder, I spied all six volumes of Marcel Proust's early twentieth century classic *In Search of Lost Time* towering over the assorted memoranda and correspondence on the outer table. It turned out that Andy had read Proust as a young man, recalled that experience as worthwhile, and, given the decades that had elapsed since then, thought he might benefit from a second look. Of course.

Notwithstanding this inspiring example, most of us lack the energy or inclination—let alone the longevity—to calibrate our book-reading to the periodicity of Halley's Comet. Still, those who were paid in part to satisfy Andy's curiosity and assuage his intellectual

restlessness did well to follow his lead by learning to think broadly and venture into ever-expanding fields of inquiry. When I joined the Office of Net Assessment in 2009, my defining operational experience had been as an Army planner focused on counterinsurgency in the Middle East. Besides researching the capabilities and potential of China's ground forces, my work in support of Andy touched on a dizzying array of subjects:

- Strategic deterrence and nuclear warfare in a multipolar world
- Land-based precision strike weapons and the effect on U.S. power projection
- Evolving roles of the U.S. Army in the Western Pacific
- The U.S. Army's efforts to refine its concept of operational design
- U.S. strategic use of proxies in protracted warfare
- Alternative futures for the Russian military
- China's demographic trends and their qualitative implications
- Personnel skills and maintenance practices in the PLA Air Force
- Deterrence in Arab and Muslim thought and practice
- The prospects for stability in Afghanistan
- The pattern of warfare in non-hierarchical societies

This work reflected an incredibly broad research agenda set by a boss whose persistently active mind pursued a range of interests that many who knew him only by name failed to appreciate. Collectively eye-opening too for their variety were the contract proposals that scholars and defense analysts submitted periodically as they competed for a share of the study budget Andy managed.

Beyond the small circle of military officers and civilians under his direct supervision, Andy's influence expanded across a professional network as broad and diverse as his interests, and he wielded the office's study budget with an underlying rationale of keeping these people intellectually engaged. As a steward for the government's portfolio of investments in the business of thinking, Andy cast his net wide. He expected few big payoffs but perceived inherent value in encouraging thoughtful people to grapple with the strategic problems of the day, and he selectively sustained their efforts because this enterprise—once stalled and abandoned—could not be easily rebuilt

and reignited. He continually invested in a process that incentivized people to channel their mental talents and energy in support of national security. As one of dozens of military advisers who served Andy over his tenure as Director of Net Assessment, I don't know the extent to which I actually helped him. That he helped *me* immeasurably more is as much my regret as it is his legacy. My time with the office was an education that provided unique exposure to people and projects and an irreplaceable opportunity to observe—beyond the limits of my own experience—how brilliant minds think. My resolve is to not squander what I've been given.

A final anecdote summarizes the importance of understanding one's experience, placing it in proper context, and appreciating both its value and its limitations. At the closing presentation of a war game sponsored by the office at the request of the Secretary of Defense, Andy grew impatient with a team leader who had failed to think creatively. The team leader had dismissed outright a course of action that, in Andy's view, at least merited exploration. Not that Andy considered this course of action especially prudent, but branding it beyond the pale seemed arbitrary, unimaginative, and even lazy. "Why didn't you look at this option and its implications?" Andy demanded. "Because it would *never* happen," the team leader responded. "It would be like indefinitely halting all D.C.-bound traffic at the Potomac River." After a pregnant pause, Andy kindly counseled caution regarding the use of analogies and disputed the asserted similarities with the scenario in question. Then, with characteristic understatement, he mentioned the Washington riots following the King assassination in April 1968, when authorities had, in fact, halted traffic across the Potomac for a time and how the occasion had disrupted Andy's plans to attend a meeting in the capital as a result. For the self-aware, experience is cumulative. As for those who believe they have accounted for the full depth of another's experience simply on the basis of their own, well, they are bound to be surprised—particularly in their dealings with nonagenarians.

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Tutorials from a Sphinx

Nicholas Eberstadt

I CANNOT CLAIM to have been as close to Andrew W. Marshall as many, perhaps most, other contributors. Nevertheless, Andy was an important force in my life, not least for teaching me how to think, or at least how to think a little better. It is my great good fortune to have come into his orbit as a young man, and to have been allowed to travel in some of his circles for most of my life.

I first heard of Andy Marshall in the very early 1980s, when I was a graduate student in my twenties up at Harvard, working hard at everything except the dissertation I was supposed to be doing. The word was, a sphinx-like genius down in Washington was running a little shop in the Pentagon that was doing mysterious but important research bearing on the conduct of, and perhaps even the outlook for, the Cold War. Then as now I had no security clearances, so I could not learn much about Marshall's operation. (This, recall, was the pre-internet age, when information was not available to all at the snap of one's fingers or the click of one's mouse.) But I did glean some sense of what the Office of Net Assessment was about by reading through some of the open-source papers and studies ONA had sponsored through the RAND Corporation available in the library—and I very much liked what I saw, especially those papers I was able to understand.

I came into the outermost fringes of Andy Marshall's orbit in the mid-1980s, through the legendary Charles Wolf of RAND. Like Andy, Charlie Wolf was one of the very early RAND-istas. (Later my path would also cross with another of Andy and Charlie's friends from

early RAND days, the remarkable Fred Ikle: what an extraordinarily exciting place RAND must have been in the 1950s! But that is a different story…)

What qualified me for consideration as a prospect was my homework on the social and economic performance of the USSR and the Soviet Bloc states. (This was not my thesis topic, needless to say.) Around 1986 Wolf invited me to contribute a chapter to a volume he and Harry Rowen, another ur-RAND colleague, were preparing on the future of the Soviet Union. Not so long after that I came into Andy's presence.

It would be an exaggeration to say I met him then, exactly—I was incidental to the gathering, and I had the good sense mainly to keep my mouth shut.

What I had heard about Andy from others at the outer reaches of his realm seemed completely accurate: the guy was a sphinx. The then-sixty-something Marshall, hairless and bespectacled, was defined by an intense and unsmiling gaze. I could not tell what was on his mind. But I was pretty sure he was dissatisfied by what he was hearing. Mainly he stared and listened. He nodded; frowned; asked maybe two quick questions—and then we were dismissed. To say he seemed forbidding would have been an understatement.

Not so long thereafter I would get to see the sphinx talk. I credit this to my intellectual friendship with two informal teachers, Murray Feshbach and Igor Birman.

Murray, of course, was the leading Western student of Soviet demography—the first outsider to spot the rise in infant mortality in the USSR's, as well as the more general worsening of adult health during the Soviet Union's "era of stagnation." Igor is not as well-known today as Murray—he remains a prophet without honor in his adopted homeland—but I was convinced then as a I am now that no one inside or outside the Warsaw Pact better understood Soviet economic realities.

To learn from Murray and Igor was to know that the conventional wisdom about the USSR in both Washington and the academy was badly wrong. Far from being a system that was "muddling through" with mediocre but passable social achievements and an inefficient but steadily growing economy—supposedly the second-largest

in the world!—the USSR was a society in deep crisis, and one supporting a faltering war footing economy. Very possibly alone among Washington's officialdom, Andy understood the greater significance of Murray and Igor's work—and he was incontestably alone as a sponsor and promoter of their findings within the U.S. government.

In retrospect I think Andy's trust in them somehow rubbed off a bit onto me, which is why one day in the late 1980s he dropped the veil and shared with me an unvarnished Marshall assessment. The Soviet economy was vastly poorer and more militarized than the consensus intelligence community estimate suggested. Most of the CIA's research on the USSR was second rate, or worse. He hoped he could find more scholars and researchers to produce better work on the Soviet situation. But for the time being the best he could hope for was that U.S. decision makers would just ignore the nonsense they were getting from the CIA.

This was an eye-opening—indeed electrifying—tutorial. And by a curious twist of fate, its lessons were inadvertently reinforced by a chance chat with Robert Gates, then CIA Deputy Director for Intelligence, concerning the Agency's estimates of Soviet performance. Gates reached out to me after I published an essay faulting the CIA's work. Courteous and worldly, Gates confided to me that of course he knew my criticisms were correct—but as I would surely understand, for half a dozen administrative reasons he would share with me in confidence, the Agency could not officially amend its Soviet economic estimates. The contrast between the Marshall approach to the problem and the Gates approach to the problem could hardly have been clearer—and it would make a deep and lasting impression on my thinking about public policy and international security research.

Around 1990 I finally got my first chance to sit, so to speak, at the grownup table with Andy. I earned this opportunity by dint of an American Enterprise Institute conference I chaired on the comparative performance of the U.S. and Soviet economies as viewed by CIA economists, "reform" Soviet economists, and independent Western economists. (Igor Birman was the architect of this effort, but it took the two of us to pull it off.) The three-day gathering was, I think it fair to say, absolutely devastating for the CIA's take on the

Soviet economy: elegant and sophisticated as its modeling of Soviet economic performance may have seemed, the results nevertheless could not pass the laugh-out-loud test, especially for the Soviet economists present. The scale of that intellectual failure can begin to be appreciated when one remembers that, at the time of our conference, the U.S. intelligence community's effort to describe the performance of the Soviet economy was probably the largest and most expensive social science project ever undertaken.

In a particularly memorable exchange, a leading Soviet economist dumbfounded the chief of the CIA unit tasked with this work by sincerely asking if the Agency had been exaggerating the size of the Soviet economy all these years just to bolster America's military budget—after all, the CIA economists were better trained than their Soviet counterparts and their errors were so enormous and elementary? Andy Marshall and Charlie Wolf both participated in the conference, Charlie weighing in often and wisely. I don't think Andy said a single word during those sessions, but as I recall he was smiling from ear to ear for almost three days straight.

Some months after the conference, Andy agreed for us to have lunch together. I had a hundred questions for him, and he was in a mood to take them seriously and answer them without his famous reserve. It was for me a one-on-one lesson in Andy's worldview, his conception of long-term strategy, and his approach to net assessment and researching strategic questions. It was a great deal to take in; I admit I didn't absorb it all.

One of Andy's many points about his work was that the sort of things he and I might talk about—the USSR, China, economic and social performance, global demographics, and the rest—occupied only about a quarter of his time and attention. Three-quarters of his time, he said, was devoted to science, technology, and the development of defense platforms. At that moment I realized I would never really be able to understand more than a very small fraction—say, about a fourth—of what Andy really did. Such homework as I would do for Andy or with Andy would always be compartmentalized—contributing to a greater understanding that drew on sources I was not privy to, and likely would not be capable of digesting even if I had full access to them.

The hard-science/social-science balance of Andy's self-described agenda has been a caution to me ever since—underscoring the limits of the contributions that my sort of homework can make to a more comprehensive overall assessment of strategic competition in the global arena. It also highlighted just how difficult it would be for any think tank or nongovernmental research entity to produce work comparable that of the Office of Net Assessment, much less replicate ONA's function. Some years after that lunch with Andy, my own institute toyed with the notion of organizing an internal strategic assessment unit—in effect a net assessment effort. It was clear to me that such an initiative would be vastly more difficult than its proponents imagined—not least because so many who consider themselves to be "strategic types" are so unversed in math, science, and engineering. (Not surprisingly, our own in-house homage to ONA failed to launch.)

Over the decades since that, for me, unforgettable lunch with Andy, I have been privileged to see Andy recurrently—through workshops, summer studies, and various homework projects of my own, also more informally as well. I hasten to add that I am not now, nor have I ever been, a "Jedi Knight." But I know many of them. One of these, the redoubtable Enders Wimbush, was instrumental in bringing me into closer and more regular contact with Andy and ONA. Enders is, among many other things, what you might call a collector—and I was very happily collected by him back in the early 1990s.

At the risk of repeating what others will doubtless attest: Andy Marshall was an inspirational force. It was exciting to be in his presence. You really wanted to do your very best work for him. His comments and questions always helped elicit excellence from his de facto tutees. (Yes, the rumor is true: some of Andy's remarks would be elliptical, occasionally even Delphic—but then you somehow managed to figure out what he was getting at.)

Andy brought out the best in his tutees through positive reinforcement. I never suffered criticism or reproach from Andy. I did once experience his gentle admonishment though. We were conversing about global demographics, and he asked me in a casual sort of way if I knew the size of the Kurdish minority in Turkey. I replied something to the effect that I myself did not have the answer offhand but had he checked the Statistical Yearbook for the Republic of

Turkey. Andy didn't say anything—but he gave me a sort of disappointed look. Yes—I had made a fool of myself. I promised Andy I would follow up on his question and get back to him.

I quickly learned the reason for his question: it turned out that Kurds were statistically invisible not just in Turkey, but throughout the Middle East—in Iraq, Syria, and Iran as well. So: Andy wanted me to see if I could come up with a way of approximating the demographic profile of the Kurdish minority in Turkey, and prospective shifts in the Kurdish/Turkish balance within the Republic of Turkey in the decades ahead! Thus began one of the more challenging, and fulfilling, research projects I would ever undertake: one that would bring me to Istanbul and Turkish Kurdistan (or whatever it is called these days), and eventually afforded me an unconventional though quite serviceable method of "counting" a disfavored population, despite a presiding government's wish that it remain un-enumerated. Suffice it to say that Andy's interests were wide ranging—and that you would be well served in assuming there was a good reason for every question that he asked.

Another facet of Marshall-world demands mention: this is the stunning array of talent that it consistently attracted, decade after decade. Even more striking than the caliber of the established figures of demonstrated accomplishment in ONA orbit was Andy's gift for spotting promising young people. I don't know exactly how he found such interesting, open minds, fresh thinkers and fearless sceptics—but this certainly added to the fun of running in his circles.

To be sure: this extraordinarily ambitious and far-reaching search for talent, including contrarian talent, turned up a crank or a charlatan from time to time. Over the years there were a few characters of questionable character as well. But such people were exceptions, and obvious ones. Andy himself was a man of sterling integrity, and the talent quotient of the Marshall contingents was a thing to marvel at—not least because these rosters were assembled despite all the quality-degrading tendencies of the U.S. government's standard operating procedures.

Though Andy formally retired in 2016, we kept in touch until the end—meaning he was still instructing me, on into my sixties. Not so long ago, this man in his late nineties was offering me acute counsel

on a headache of a research task I had taken on: a project to measure, and make sense of, impending changes in Chinese family structure and their portent. (I think I finally untangled the knots that were hanging me up on that one: thanks for your help Andy, once again.) Early in 2019, he was patiently helping me clarify my own thinking about ways to improve the quality of research on economic performance in North Korea, a famously difficult system for outsiders to analyze and understand. Not uncommonly he would suggest I take a look at some article or book I had not read, or heard of; sometimes the publication was written half a century ago, other times it had just come out. Even in his final years, the knowledge and learning he would bring to bear on a problem were prodigious, and in my experience, it typically offered an interesting new take.

In important ways I have lived a charmed life. I have been blessed with precious opportunity to make acquaintance and form friendships with some truly world-class minds. Andy was one of these—but he was also rather more. He was a Great Man. He is impossible to replace. But it is incumbent upon those of us who knew him, and learned from him, to try to pass on his legacy as best we can.

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Teaching for Andy Marshall

Anna Simons

Two individuals were instrumental in introducing me to AWM. First, Lionel Tiger commissioned me to write a paper for a project he was working on for Andy right after I made the academic leap from UCLA to the Naval Postgraduate School (NPS) in 1998. And then, Pat Parker, already an emeritus professor at NPS, had me meet Andy on one of Andy's many trips to Monterey. Had I ever heard of Andrew Marshall previously? Or, what did I know about the Office of Net Assessment at the time? Absolutely nothing. Nor did I have any inkling about the inner workings of the Office of the Secretary of Defense. The world of DOD research was nothing anyone I knew anything about.

Yet, here was Lionel Tiger, whose work, hypercritical to me, I didn't just admire but used frequently in the classroom. He spoke of Andy with unmitigated reverence. And then, so did Pat—Pat who was so well off in every sense that there was nothing he might have needed from Andy or ONA. Actually, it was the fact that both of these older, remarkably successful, incredibly well connected senior academics spoke with such unadulterated respect and were always keen to seek Andy's counsel that gave me initial pause. Otherwise, in my first few encounters with Mr. Marshall, I remained totally baffled. Clearly, the initials O-N-A held plenty of cachet around NPS. But—what was *Mr. Marshall's* draw? Especially since, as I was repeatedly told, he owed his longevity to never really uttering an opinion.

As for ONA, it was variously described to me as the Pentagon's internal think tank. With everyone else in the Pentagon mired in

putting out yesterday's fires today, ONA was apparently the only office with the pressing luxury of being able to look ten to fifteen years out. Among other things, ONA netted and assessed alternative futures: what should we be thinking about today to stand us in good stead tomorrow?—a question that has to be among the most potent questions any department of defense can ask and *keep asking*.

However, as became clear over time, Mr. Marshall wasn't just interested in alternative futures. He also "captured" individuals. As so many people have noted, he put a vast network of bright and independent-minded people to work on all manner of problems, so many over such an extensive period of time that only he probably knew just who he had set in motion on what. And though the 'on what' has seemed to draw most attention (and awe), the "in motion" might be even more salient, since who knew where people's thinking might take them? Indeed, I'd submit that *not* knowing—and not thinking he *needed to know*—was one of the hallmarks of Andy's genius.

Who else but Andy would refuse to insist that the cart must go in front of the horse? Certainly no sponsor of research I'd ever run across. Everyone else demanded likely findings before research had even begun.

To try to describe what made Andy's support so radically different from anyone else's, I should first say something about the two institutions that he straddled without belonging to either: academe and the military. Both have honed indoctrination to a fine art. For instance, take academe. From the outset it was clear that none of our professors in grad school were the least bit interested in our ideas. Instead, from our first submitted paper onward, they schooled—drilled—us, actually in our academic presentation of self. Consequently, grad school ended up being one long object lesson in stringing together others' arguments and citing them correctly. To be fair, it is not as though we didn't come out well trained. It was just our bad timing to be four generations removed from the founding of our discipline, so that everything exciting had already been hashed through multiple times. Collectively we never got to grapple with problems our elders didn't think they already knew—or knew how to get—the answers to.

The military, of course, conducts its conditioning slightly differently, but with somewhat similar results. Or as one major in one of my classes put it when we were discussing a book written by a partisan adviser during the Korean War, second lieutenants (which was the author's rank at the time of his exploits) don't yet know enough to self-censor; they'll likely try anything. Not so most career-minded O-3s and O-4s which, whenever I later cited Nick's "lieutenant theory," brought to mind the objection two other students made to a comment I'd scribbled at the end of each of their papers: "I think you can push your thinking further." Together they came to office hours to tell me that, no, they couldn't push their thinking further; they didn't understand why I thought they might have pulled their punches.

This incident occurred in the first year I taught special operations forces (SOF) officers. After a further twenty years, I'd now say that among the greatest challenges of professional military education is to get officers to be willing to unfetter their thinking. This can almost never occur in an "I transmit, you receive" environment. Instead, fearless thinking requires something like the atmosphere fostered by Andy (and Jim Roche) at the Newport summer studies.

Lionel led the first Newport summer study I attended (on "Recent Findings in the Biosciences: Implications for DoD"). Among the many interesting things I observed during those ten days in Newport, I couldn't help but notice that several of the officers who had been "voluntold" to attend ended up fully invested. Ditto the following summer, when I knew next to none of the officers assigned to help me tackle "The Military Officer of 2030." Yet, several again proved much more fully committed than some of the civilians who were there on generous honoraria; they *wanted* to dig in; they didn't want to quit at 4:30 or 5:00—which eventually led me to see if Andy and Andrew May wouldn't let me try something similar at NPS. Would they give students and me a problem to chew over—something none of us had worked on previously?

Neither Andy nor Andrew hesitated. So, in 2006, we held our first Long Term Strategy Seminar. We kicked it off with both of them and several other ONA familiars in attendance. And then, the eleven students I'd cherrypicked and I got to work. One difference: Newport was wonderfully intense. Ten days in which to discuss, assemble,

disassemble, and reassemble the "deliverable," which was a fifty-minute-long briefing. With the briefing delivered, we then dispersed.

In contrast, any number of things vied for the students' attention at NPS: other classes, family, surgery, surfing, who knows what. Thus, no matter how carefully I thought I'd chosen participants who would relish tackling a problem the *Director* of the Office of Net Assessment *personally* wanted us to work on, not everyone dug in. But, enough always did.

In all, Andy and ONA sponsored six seminars over the course of twelve years, each of which produced a Newport-style deliverable: a fifty-minute-long briefing, with one slight wrinkle, a wrinkle inspired by Pat Parker.

The same year that Lionel was given the biosciences to tackle in Newport, Andy asked Pat to lead an NPS effort on a topic related to the War on Terrorism. All told, Andy assigned the same question to teams at four different institutions. Interestingly, Pat was the only one to bring his entire team to Washington for the day-long weekend briefing to a roomful of "principals." In Pat's view: we'd done the work; it was only fair that we be there for any Q&A, or feedback. And, given the audience and assignment, he also thought it would prove hugely educational, which it definitely did. Of course, Pat could have left us all back in Monterey and done the entire briefing himself. But—that wasn't Pat. Nor was it Mr. Marshall, since clearly Andy had to have approved Pat's plan or we wouldn't have been present.

Pat's example, under Andy's aegis, left me with three indelible impressions. If I ever did something similar, the students, not I, should brief our results. Ideally, that wouldn't just incentivize, but reward them. That way, too, they'd get to hear Mr. Marshall's feedback directly. While third, and something Mr. Marshall and Andrew would later repeatedly have to remind me: the real value in putting together the "deliverable" was always dual. There was what we came up with. And then there was how we came up with it. The latter, and enabling O-3s and O-4s to think at the strategic level, was the more important of the two.

The difficulty this presented me is that I invariably developed Stockholm Syndrome for our results. Whether the topic was strategic blindside, regional stability, SOF 2030, SOF in China, strategic ambush,

or existential fears, I always thought we came up with good stuff. And I was always anxious that something "happen" with the good stuff we came up with.

Yet mercifully (probably), regardless of how gung-ho I wanted the most gung-ho officers to stay, they moved on, literally; they graduated and were assigned a permanent change of station. This is why Andy's and Andrew's understanding of what was of most value was so important. Even if the students continued to care about whatever problem we had chewed over, they had been exposed to the difference it makes when someone from on high (aka Mr. Marshall) sanctioned them to engage in fearless thinking. Ideally, *this* is what they would remember whenever they found themselves in a position to unfetter others' thinking in their turn.

Consequently, all the tributes to Andy as a futurist tend to miss this key dimension: he was peerless at "paying it forward." He granted the widest possible latitude, whether for a seminar or a research project. I never received more than suggestions. Never any detailed guidance. There were seldom parameters and just a few reminders: don't come up with singular solutions, but alternative futures (plural) instead.

At this point, I think I can safely say that many officers—to include lots of Special Operations officers—have a hard time operating with few guidelines. Again, it is hard to undo all those years of conditioning or purge one's head of all the rules. For instance, when I came up with what I thought the students would consider the easiest, as in most appealing, topic yet—SOF 2030, what might SOF need to look like in 2030? what might SOF forces need to be capable of?, etc.—eleven of the thirteen I'd carefully selected for the seminar couldn't (or didn't want to) make the leap; they couldn't fast forward to 2030. Instead, they kept reverting to what they were already familiar with and extrapolated into the future from there. Only our lone Marine and one Special Forces officer were willing to brief a totally new way of doing business—which I took as further evidence for what Andy had long known: setting the conditions so that people feel capable and comfortable (never mind eager) to think fearlessly is *really* difficult, while the fact that it is impossible to accurately predict what

might work is another ONA lesson Andy and Andrew always reiterated—and purposely risked.

Again, I don't know of any other DOD research sponsor who could match the license Andy granted academics to pursue untried trains of thought, no matter where they led. Which is not to suggest that Andy was cavalier. Far from it. Leaps had to be grounded in reality. You had to be able to write clearly and support your points. For instance, take us humans and the likelihood that such a thing as "human nature" actually exists. How would you go about examining this in a way relevant to DOD? You might ask: what about us has changed? What hasn't? What won't?

My sense is that Andy didn't just agree that it is foolish to wish away realities, but wishing them away almost always yields flawed strategy, especially since realities often become constraints. The trick, then, should be figuring out how to turn these constraints into opportunities. To me, this has always defined being unconventional, while identifying those who can think unconventionally is something DOD should be better at than it is. Granted, the best assessment and selection courses, like the best field exercises, put individuals into the kinds of unsettling situations that help them discover things about themselves they might not have otherwise realized. But too often these have to do with strength and stamina. What, we might wonder, represents a strategically oriented assessment and selection? Is it even possible to find enough individuals in uniform willing to re-conceive what they have been formally and informally taught, *without* their being militarily undone in the process? Or is it better to work on DOD from the outside in?

Clearly, Andy was always aiming for both. He found academics who *wanted* to be challenged, and who didn't mind—and actually enjoyed—consorting with members of the military and, equally important, each other (which itself represented another form of liberation: what, there really like-minded souls out there?!). At the same time, Andy was able to grant a God-level imprimatur to all of us to at least temporarily think way above our pay grades.

Case in point, say the U.S. and China went to war. That was the conundrum he lobbed at us in 2013: what role would, could, and should SOF play? Tellingly, the officers who participated in that

seminar (some of whom are now moving into highly coveted tactical battalion command positions) continue to come back to Mr. Marshall's questions today. They do so for the obvious reason that this topic has new relevance (circa 2019). They also do so because it didn't resonate in the Pentagon at the time. Indeed, when we went to Washington to present our findings, we ended up presenting our results to a single, very small audience; apparently, too few people in the Pentagon or the Administration were willing to countenance the possibility that China *might* become an adversary—which then became *the* takeaway for the students.

All dozen participants were stunned. They found the fact that the Department of Defense wasn't already—routinely, proactively—thinking defensively about any and all possible contingencies involving every possible adversary and ally, to be more than sobering. It was galvanizing. Suddenly, these rising officers understood the significance of ONA. *And* of fearless thinking.

As for what else we should be thinking about today (beyond adversaries, allies, alternative geopolitical, biosocial, brighter, or more dissolute futures), I now count on these officers. I have every confidence they will keep paying Mr. Marshall forward—a direct and indirect consequence of the impact his impact had on those who ensured he impacted me.

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Andrew Marshall and Classics: A Remembrance

Jesse H. Ausubel

In 1999 I was pondering a millennial book project titled The World's Progress exploring both what follows a forward arrow (science and technology) and what does not (human biology and behavior). Among my most valued interlocutors was Joshua Lederberg, a Nobel-winning Rockefeller University geneticist with a subtle, expansive mind and eidetic memory. Josh had been in conversation with Andy Marshall for decades on many topics, and was corresponding with him then about whether successful warriors have higher Malthusian fitness and the changing attributes of martial success, including effective leadership, technical prowess, and instinctive behaviors. Josh sensed an interesting match, and connected us, and thus began my own conversation with Andy, which would last almost twenty years.

One naturally associates *martial* and Marshall. *Martial* stems from Mars, the Roman god of war, while Marshall in fact is a Norman name for persons who tend horses, but I associate Andy with the classics. The word "classics" derives from the Latin adjective *classicus*, meaning in ancient Rome "belonging to the highest class of citizens."[1] By the second century CE, literary critics used the word to describe the highest-quality writers.

Andrew W. Marshall lived for classics. He sought to grasp the broad meaning of the entirety of history, the ultimate design of

1 According to Wikipedia, citing Jan Ziolkowski, director of Harvard's Dumbarton Oaks Library and professor of Latin.

the world. Such timeless understanding is not found in committee reports. Andy understood that most great intellectual achievements of the kind he valued came from individual minds.

Andy's capacity to read and listen enabled him to voyage in space and time. For Andy space and time united. History was a set of developments of ideas in time, while geography was the development of a set of ideas in space. He always seemed at home in a room where maps covered the walls. At the same time, he understood that history employs people to do its work.

While Andy trained in economic history, he saw, like a biologist, that the germ bears in itself the whole nature of the tree, the taste and form of its fruits. Also like a scientist, he sought to remove the I, to make history a science, objective and reproducible.

Books and articles and conversations, and frameworks into which to place telling details, accumulated in Andy's mind and office. He resembled other great observers in his ability to see the world without actually venturing far. Henry David Thoreau remarked in his classic *Walden,* "I have travelled a good deal in Concord."[2] Jane Austen, author of *Pride and Prejudice* and other classics, never ventured more than about a hundred miles from where she was born.

The travels of German philosopher and historian Georg Wilhelm Friedrich Hegel spanned only the Netherlands, Brussels, Paris, and Vienna. Yet, he portrayed China and India, and also Egypt, Persia, Greece, and Rome as deeply as today's mileage-rich researchers. Hegel read Herodotus, Thucydides, Tacitus, and Marco Polo, and translations of Confucius and the Vedas. About 1830 Hegel wrote, "America is therefore the land of the future, where, in the ages that lie before us, the burden of the 'World's History' shall reveal itself."[3] We might say that Hegel led Prussia's Office of Net Assessment.

Like Hegel, Andy Marshall believed that scholarship ought to comprehend the character of a nation. He also understood that the final cause of the world at large is indefinite, ambiguous, incalculable.

Andy's scope included the sea, whose qualities are precisely, at least until recently, that it is unlimited and infinite and invites humanity to stretch. The sea invites conquest and piratical plunder

2 Henry David Thoreau, *Walden*, Chapter 1: "Economy," p. 2.

3 Georg Hegel, *The Philosophy of History* (New York: Dover, 1956), p. 86.

and also honest gain and commerce. The land always involves a multitude of dependencies. The sea is boundlessly innocent and submissive until it rages or fills with new things. Global history and strategy must encompass land and sea and, increasingly during Andy's lifetime, air and space.

Hegel was terminated as Rector of the University of Berlin after less than one year. Thoreau and Austen in some sense also "did not fit" in their societies, and part of Andy's gift was to appreciate that individuals who did not fit easily into well-established institutions might create classics. Classics arose neither from committees nor from consensus. Moreover, time and digestion might matter more to create a classic than sweat. Against all odds, Andy created a niche where he himself, who did not fit, fit for more than forty years, and nurtured appreciation of classics and manufacture, by hand, of new ones.

An American citizen of the highest class, Andy appreciated that classics offer abiding insight and foresight, and thus security, or at least chances to gain advantage from, and occasionally evade, the irresistible power of circumstances.

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The French Connection

Gordon Barrass

Andy had a passion for France—one that began with cuisine and fine wine and went on to become a fascination with the way the French thought about strategic issues.

It dated back to the 1950s when Albert Wohlstetter and his wife, Andy's colleagues at RAND, took Andy and Mary on an extended tour of France, where they quickly became addicted to the pleasures of French cuisine and wine. Between 1963 and 1965, while still working for RAND, Andy was seconded to the U.S. delegation to NATO, then based in Paris. Andy's efforts to persuade French strategists of the merits of close cooperation with NATO did not prevent President de Gaulle from withdrawing France from NATO's military structure and forcing NATO and Supreme Headquarters Allied Powers Europe (SHAPE) to move to Belgium in 1969. That same year, Andy was appointed Director of Strategy at RAND.

Three years later, in 1972, Andy went to work in the White House, where he was tasked by Henry Kissinger, the National Security Adviser, to review America's intelligence priorities. One of the many reasons Kissinger admired Andy was his understanding of the French. This included evaluating CIA's assessments and the intelligence that the U.S. was receiving on France, especially French nuclear capabilities and French strategy.

During the latter 1970s, Andy began to despair about the lack of original thinking on strategic matters among the European members of NATO, who just seemed to be reflecting what the U.S. was telling them. The one exception was France—proudly nationalistic, with its

own nuclear deterrent and a continuing interest in its former and current territories in the Asia-Pacific region and Africa. Over the years, Andy opened up a stimulating dialogue with the French, linked closely to the Délégation aux affaires stratégiques (DAS) in the French Ministry of the Armed Forces, which had a similar function to ONA.

Senior representatives from the French General Staff, the Foreign Intelligence Service (DGSE), the Internal Security Service (DGSI), and think tanks took part in these discussions at various times. They included Henri Conze (who from the 1970s until 1997 was the Director-General of Armaments, dealing with French nuclear arms and strategy); Therese Delpech (Director of Strategy at the French Atomic Energy Commission); Marc de Brichambaut (Director General of the DAS, 1999–2005); Bruno Tertrais (a leading French political scientist specializing in strategy) and Guillaume Schlumberger (a strategist in various ministries who took a keen interest in China, before taking over as Director General for Strategy in the Ministry of Defence in 2015). In most years there would be two rounds of discussions, one in Paris and the other in Washington.

Without these links to France I doubt that I would have got to know Andy as well as I did. In December 2003, as I was beginning to work on *The Great Cold War*, I called on Andy at ONA. I told him that my close study of the intelligence the British had received from Oleg Gordievsky had shown that the Russians viewed many issues very differently than we did. Andy liked my idea of looking at the perceptions each side had of the other and said he would be happy to discuss this further, which we did again in Washington a year later.

Then in April 2005, six months after Mary's death, Andy spent a weekend with Kristen and me at our house, overlooking London from the heights of Mount Vernon in Hampstead, followed by a second visit in September 2006. Kristen was able to do much to comfort Andy, and a he remained very fond of her to the end of his days.

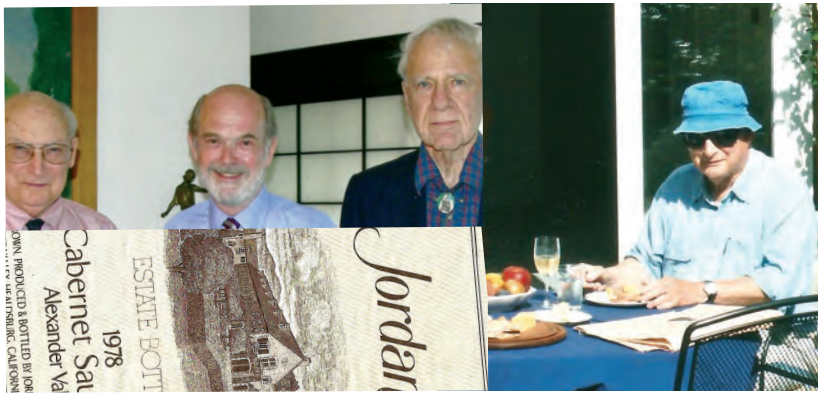
On both occasions I interviewed Andy at length, but each day we were able to relax over leisurely French-style lunches in the garden, with Andy sheltering from the sun under his much-loved blue hat.

The most important thing that emerged from these discussions was his fascination with what I called the "Mind of Others." "Valuable

insights," he said, "can of course be gained by closely observing what the other side does, but the real gain comes from asking why they have done it—and done it in that particular way. It may not seem reasonable to you," he chuckled, "but it probably does to him. Rationality, after all, can come in many different forms."

This insight was of enormous help when I started interviewing Soviet and East European leaders. When I first met Markus Wolf, he was rather taken aback when I said I did not wish to talk about his intelligence activities; if not that, what did I want to talk about? To which I replied, "What you thought was happening from your childhood until the end of the Cold War." He said, "No one has asked me that before and I would be happy to discuss it with you." From that I learned a lot more about the "Mind of Others."

Following the publication of *The Great Cold War* in 2009, Andy invited Kristen and me, along with Jim Schlesinger, to supper at his home. Andy and Ann, his second wife, put a huge effort into preparing a celebratory feast. It showed that in matters of cuisine, Andy was, so to speak, a child of Julia Child, with the dishes being creamy reminders of French cooking before the arrival of *nouvelle cuisine.* To accompany the cheese, Andy produced a Jordan Vineyard, Cabernet Sauvignon, 1978. Alas it was not one of those rare wines that could hold its charms for thirty-one years, but we did appreciate Andy producing it to mark this special occasion.



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An Example of What a Man Can Be

David Epstein

A MAGAZINE ARTICLE recounting the events of 1997, when the Office of Net Assessment seemed at risk, quotes Andy reassuring his friends: "Stop worrying. I'm not dead yet. Stop writing my eulogy!" This was easy advice to follow, as we did not want to imagine the event, and could not conceive of a eulogy adequate to the subject. But perhaps there will be strength in numbers.

Andy is often described as humble. This is an appropriate description of his unfailingly gentle demeanor; it may not quite capture Andy's character. On one of many occasions where people extolled his virtues, Andy charmingly replied that his wife did not think it was good for him to be so lavishly praised. But he did not say he didn't deserve it. The famous, perhaps apocryphal slogan attributed to Andy—"There is only so much stupidity that one man can prevent"—does not specify what that amount is.

Andy's speech often enacted the process of thinking rather than presenting the results of prior thinking. The changing expressions on his face would illustrate the complexities he grappled with, something like the flashing red light reporting hard disk access in early computers, but with a complexity of display indicating the range of his thought. He worked from notes generously described as sketchy, maybe a dozen lines with a few words attached to a number or a dash, and usually with an "etc." or a series of unaccompanied dashes at the end of the list. Indeed "et cetera" was a favorite term, as if always to leave something as an exercise for the listener.

Contrary to the common emphasis on the secret and therefore unsung character of Andy's work, I think there is much to be learned from writings by Andy that have been declassified or published.

In his very early career, Andy published several articles in the *Journal of the American Statistical Association*, which a Pentagon library card allows me to download but not to understand. His expertise did not govern his thought. Andy was not a methodologist or a devotee of any method; he thought the method should grow out of the question rather than have the question governed by the method. I do not remember his ever having practiced or recommended a statistical analysis of any of the issues we considered in the Office of Net Assessment. By the standards of today's social science, Andy was in possession of the world's biggest hammer but never saw a problem that looked to him like a nail.

Andy seems to have coined the term "competitive strategy," which would be redundant if not for the many definitions of strategy that make no mention of an intelligent opponent, as if there could be a strategy for cooking dinner or improving physical fitness. His preferred phrase was "long-term competition," calling attention not only to the opponent but to the probably unending task implied. National security is not attained, it is preserved, and depends upon indefinitely sustaining military forces sufficient in comparison to whatever opponents would present a threat. Andy's contemporary Thomas Schelling elegantly worked out the logic of competing rational strategic actors determined to out-bargain or out-bluff one another, but the results are discouraging: the prescription is to convince your opponent that you have no choice, and the prescription for him is to convince you that he has no choice. Andy avoided this dead end by observing that actual nations are not symmetrical rational actors, but collections of organizations neither fully coordinated among themselves nor identical to their foreign competitors. Strategy is therefore a quest to understand comparative advantage and foster it by actions that have asymmetric effects on the two sides.

Andy's essay on "Strategy as a Profession for Future Generations" reflects on the kinds of studies and experiences that are conducive to a "willingness and self-confidence to address the larger issues" of strategy. He recommends "above all" the study of military, economic,

and technological history. And he praises economists, at least the economists of the 1950s, for their acceptance that in some cases (like nuclear warfare) "there were no experts." Economists are to scientists what Socrates was to the shoemakers overconfident from their own narrow competence: they know that "many widely held views, even among responsible people, are faulty."

Praise of others indicates standards for oneself. The only time I saw Andy give a toast, we were guests of the Israeli Ministry of Defense, and Andy's chosen theme was the patriotic virtue he observed and admired in our hosts. As always, he spoke briefly and with no embellishments, but on a topic and with an evident depth of feeling unusual for him. In a book review Andy wrote of a biography of Senator Henry Jackson, he praises Jackson for nurturing his staff, persisting in the U.S.-Soviet competition, and learning from emigres. Near the end of his review, Andy quotes the author's judgment that Jackson exemplified the idea the American founders had of an excellent senator. Andy then adds his own verdict on Jackson: "He was an example of what a man can be." This remark is characteristic of Andy in that it is simply stated, short, and Delphic, quietly alluding to a very high standard of ambition and excellence. Let it serve as Andy's epitaph: He was an example of what a man can be.

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Mr. Marshall's Smile

David Fahrenkrug

I began working for Mr. Marshall in May of 2011. Over the course of the three years I worked for him, I participated in dozens of meetings and presentations with him. Often, when asked to make a comment on the discussion, he would pause, scrunch up his eyes as if peering deep into the recesses of his memory, and then recount some experience or prior research that related to the topic. My impression was that the presentation hadn't really addressed what he was looking for and he was suggesting other ways to look at the problem. On occasion, however, rather than make a lengthy comment, Mr. Marshall would just smile and mumble a "thank you" or "this is good." Rarely were there any additional comments; quite simply, he had heard something he liked and you were on the right path. During the time I worked for Mr. Marshall, there were three times I remember receiving this encouraging smile.

My first time to interact with Mr. Marshall on a personal level was my interview to be his senior military adviser. I don't recall any specific questions from the interview, but in general Mr. Marshall wanted to know about my research interests and in particular about my experience at the University of Chicago. I think this is in part because he was an alumnus, but also because he was a consummate learner and was simply curious about what I had studied there. So, we ended up in an extended discussion of my dissertation, which included a discussion of my dissertation committee. I had selected a diverse group of professors—from a staunch realist, to a suicide terrorism expert, to an Armenian, Russian-speaking communist

(though he preferred to be called a socialist). The only thing any of them had in common was teaching in the political science department and being on my committee. Mr. Marshall seemed to be especially taken by this eclectic group of academic researchers.

In my dissertation, I explored the mechanisms of imperial control to explain why some empires lasted longer than others. One of my committee members, however, did not particularly agree with my pursuit of the concept of imperial control. The prevailing wisdom at the time was that the rise of nationalism in the nineteenth century undermined the mechanisms of imperial control, which then brought about the demise of empires in the twentieth century. He believed that in the modern era of nation-states, imperial powers could no longer persist against the nationalistic tendencies that were natural present in the peripheral states they wished to control. My challenge, therefore, was to develop an explanation that would necessarily counter his assessment of nationalism and empire. When I explained to Mr. Marshall how much this committee member disagreed with my research, Mr. Marshall smiled—quite broadly, in fact.

I learned sometime later that my struggle with that committee member somehow endeared me to Mr. Marshall. After my interview, his assessment on whether to hire me was simply, "He will do." In retrospect, I am guessing his smile meant that he liked that I was willing to challenge the status quo and pursue alternative explanations.

Another instance when I remember Mr. Marshall smiling was toward the end of my time in the office during a review of my research. Initially, I had started my work in the office by studying the concepts of cyber warfare—a topic Mr. Marshall was not particularly interested in. I shared his skepticism with the topic, but felt it was important to study nevertheless. My research began by looking at how China thought about cyber warfare as a way to start developing some comparative metrics. Very quickly, I learned that the Chinese did not really discuss cyberspace or cyber warfare; instead, they focused on information operations, information warfare, and achieving information superiority—a subject, I eventually learned, Mr. Marshall had been studying for nearly forty years.

Chinese views on the information aspects of warfare were initially a direct lift from U.S. military writings that sprang up in the

post-Desert Storm era. This was the period of time when concepts like "network-centric warfare" and information operations were being adopted by the military as part of an anticipated new way of war. However, the terrorist attacks in 2001 brought an abrupt end to this "transformation." The research and writing on network centric warfare and information superiority was immediately shelved and the weight of effort in the DOD shifted to fighting global terrorism and later, conducting counterinsurgencies. The Chinese, however, continued to explore the concept of networks and evolved their research to focus on the information aspects of warfare. And so did Mr. Marshall.

Initially driven by a desire to understand differences in command and control, Mr. Marshall had been pursuing a multidisciplinary research program on the information aspects of warfare—from detailing the history of communications and data links, to understanding cultural differences in perception, to the bureaucratic processes of decision making. Over the course of many discussions, he gently prodded and asked questions that led to subtle suggestions for me to review some earlier piece of research that he had directed. Without fully realizing it at the time, I was becoming part of his decades-long research program on the information aspects of warfare. And at the end of my tenure in the office, my seemingly simplistic contribution to his research program was to make the observation that we should treat information as a competitive resource. And his response was simply to smile. Whether he had come to a similar conclusion before, I would never know. But I did know that I had at least found an idea he thought worth pursuing further.

A final time when I remember Mr. Marshall smiling was during a conversation about a course I was teaching at Georgetown University on Cyber Warfare. I was explaining to Mr. Marshall that I ask my students to do a presentation of a case study where cyber power was used to pursue political objectives. One of the case studies I always assign to students is called the Farewell Dossier. Without considering that Mr. Marshall might actually know something about this example of espionage and deception that took place during the Cold War, I launched into a description of the incident in some detail. The background of the case study begins during the period of Détente when

the United States and the Soviet Union agreed to participate in scientific and technical exchanges. The Soviet Union, which was considerably behind the U.S. in the computer revolution of the 1980s, saw this as an opportunity to catch up with the U.S. by gaining access to sensitive information on emerging chip and processor technologies. Alexander Victrov—coded-name Farewell—was a Soviet intelligence officer responsible for managing the espionage program Plan X that was created to target and collect these key technologies. In the early 1980s, Victrov decided to defect and approached the French with a complete "dossier" of the technologies and systems the Soviets were trying to collect. The French in turn, disclosed that information to the CIA who then developed a counterintelligence strategy to undermine the Soviet's program.

One famous example involved an industrial controller used to regulate the pressure on large fuel pump systems. The Soviets were in the middle of building their Siberian pipeline, but were unable to manage the pressure and flow across the length of the pipeline. They were targeting a Canadian company that had an integrated circuit board that would solve their problems. The CIA approached the Canadians and developed a plan to redesign the control system with some faults and then let Plan X acquire it. Eventually, the controller was installed and eventually caused a catastrophic failure on the Siberian pipeline. The resulting explosion was so large that NORAD's sensor thought it was some type ICBM launch. This failure of the integrated controller forced the Soviet Union to question and then recall other technologies they had stolen from the West to include key parts of their space program. Naturally, the facts surrounding this CIA counterintelligence program are still classified. What we know about the Farewell Dossier and pipeline explosion is largely hearsay based on a couple of sources to include an unsubstantiated memoir by one of the former CIA operatives. When I made the point that we therefore don't really know if the pipeline explosion was actually the result of our counterintelligence efforts, Mr. Marshall simply smiled.

At the time, I suspected the smile meant he knew all about the case and it was definitely true. But I have since learned that there was perhaps a little more to the story. During a recent conversation with Andrew May, I was recounting the interaction I had with Marshall

about the Farewell Dossier case study. Andrew then reflected on the fact that Mr. Marshall had spent a considerable time in France, but no one knew exactly all that he was doing there. Further, when Mr. Marshall was asked at one time what he was most proud of in his life, his response was to smile and say that it was something he couldn't talk about.

As many people will tell you, Mr. Marshall was an exceptionally gifted and brilliant analyst. He was also an extremely kind, gentle, and rather quiet person. Over the years, I have come to appreciate that he communicated volumes through his quietness; especially, when he smiled.

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Mr. Marshall as a People Person

Jacqueline Deal

Only a mind reader could try to please Andrew Marshall by echoing his opinions back to him. He was known for reticence and kept his views private, partly to ensure the integrity of the work done by those around him. This perhaps made it easy to miss the depth of his connections with other people. He clearly loved and respected his first and second wives. He inspired and relied on his deputies in the Office of Net Assessment at the Pentagon. But in his work at ONA he also seemed to carry on a dialogue with the mentors and colleagues who had shaped his thinking before his arrival in Washington in late 1969. The scholars and analysts continually on his mind ranged from relatively obscure men such as Joseph Loftus to former Defense Secretary James Schlesinger. In many cases, he kept referring to these people, as a shorthand way of talking about and engaging with their ideas, long after they had died. Mr. Marshall used a particular form of metonymy, in which people's names stood in for their intellectual contributions. This could give the impression that the ideas were paramount. But Mr. Marshall was also an astute observer of human nature, and of the characteristics of those he admired. He cared deeply about the ideas, yes, but also about where they came from and why. The fellow luminaries whose thinking shaped his own were also his friends.

In a chapter for a forthcoming anthology on net assessment, Mr. Marshall chose to tell the story of the ideas behind the office through the lens of his friendships with, first, Loftus and then Schlesinger. Toward the end of his life, he frequently spoke of these men. Even

earlier, when he was still at ONA, he cited and recommended their insights to deputies and other researchers. In Mr. Marshall's retelling, Loftus and Schlesinger were his closest collaborators in undermining conventional wisdom and in pioneering new forms of research and analysis during his twenty years at RAND.[1]

Mr. Marshall assigned to Loftus credit for two sets of observations that were illuminating in themselves and that had major implications for his subsequent work, particularly in the area of projections. First, by the time he arrived at RAND in late 1954, Loftus had already reconstructed Soviet defense spending patterns over the past decade, which led him to critique U.S. projections of Soviet capabilities in the mid-1950s as overly alarming, or too generous to the Soviets.[2] Second, by the early 1950s, Loftus had identified the Soviet preference for missiles over bombers as delivery vehicles for nuclear weapons. Soviet intercontinental ballistic missile technology was not yet mature, so this insight revealed a capability gap that favored the United States. A reference by Mr. Marshall to Loftus, then, might evoke any of the following precepts of net assessment: Trends in the opponent's resource allocation can and should be studied empirically. Resources are finite, so investments in one area foreclose spending in others. Once major investments have been made, path dependence or inertia is likely to limit the range of plausible alternative futures. For reasons of history, geography, politics, or culture, the opponent's allocation of resources across various military systems and organizations may diverge sharply from that of the United States. In thinking about the opponent, therefore, be wary of mirror-imaging, and search for asymmetries. Projections of the opponent's force structure ought to incorporate these trends and asymmetries, which may also illuminate areas of weakness or problems for the opponent. The opponent's problems may create opportunities for the United States. Analysts ought to be on the lookout for opportunities at least as much as for problems.

1 This appetite for iconoclasm was stoked early by Frank Knight at the University of Chicago. David Warsh has written that from Professor Knight Mr. Marshall "acquired … a life-long taste for the jiu-jitsu possibilities of dissenting views expressed in the presence of powerful orthodoxies."

2 Tracking Soviet defense expenditures back to the immediate postwar era exposed huge investments in air defenses, fissile material and other infrastructure for the nuclear program, and rocket forces.

From where did these insights come? Mr. Marshall had clearly thought about this and had hypotheses. Loftus had gone to Notre Dame and played briefly on the football team. In other words, he was a competitor, inclined to look for the opponent's weaknesses or problems. He had graduated in 1937 and had already been admitted to graduate school in economics at the outbreak of World War II. Loftus joined the U.S. Navy and was assigned to Patrol, Torpedo (PT) boats. He served in the Northern Pacific and Aleutian Islands area. Conditions were extremely austere. His fellow crewmen were all fellow ex-jocks. Loftus had a sense for the culture of heroism; he noted that in the Soviet Union, while long-range bomber forces had existed in some form before the war, they made no appreciable impact during the conflict. Accordingly, unlike their U.S. counterparts, the Soviet bomber community did not emerge as preeminent after the war. Loftus was also familiar with the McMahon Act of 1946, the product of intense debates over civilian versus military control over the U.S. nuclear arsenal. This primed him to appreciate how elite Soviet concern about control over nuclear weapons would shape force posture choices.

Stepping back, Loftus was a member of the World War II generation and an economist by training, two attributes that Mr. Marshall identified as conducive to strategic thinking: "For many people, some period of intense involvement in an important, large-scale project or enterprise has proved to be crucial," he wrote in a volume of essays in honor of Albert and Roberta Wohlstetter. "World War II was such an experience for a number of people." While Mr. Marshall believed that economics training has, since the 1940s and '50s, become "too mathematical, too focused on the acquisition of particular analytic tools that are not, in fact, of much use in the national security area," in Loftus's day economists possessed an intuitive appreciation for the importance of "what things cost, the level of resources that nations are able to devote to defense over an extended period." They also benefited from knowing "from their own experience that experts could be wrong."

The search for the antidote to faulty expertise led Loftus and Mr. Marshall to seek out organization theorists, such as Herbert Simon, whom Mr. Marshall had known at the University of Chicago, James

March, and Richard Cyert. As Mr. Marshall would tell it, "When we talked about what we were doing to try to get improved projections, we realized that what we were trying to predict was the behavior of Soviet organizations." He and Loftus believed that their colleagues at RAND did not have a sufficient grasp of particular conditions in the Soviet Union. In the absence of empirics, their fellow economists imputed to the Soviets the behavior of an abstract, utility-maximizing, rational actor—on questions ranging from where the Soviets placed their bases to how they allocated other defense resources. Mr. Marshall and Loftus knew better. To develop alternatives to the generic *homo economicus* model that was leading their colleagues astray, they focused on the fact that they were trying to project the behavior of particular organizations. Simon and March's work on how organizations behave, and specifically how their conduct deviates from what one would expect of a unitary rational actor, was helpful. For decades after encountering organization theory, Mr. Marshall kept up with work in the field and referred to Simon and March—and later, Michel Crozier—as a shorthand for it.

As with Loftus, Mr. Marshall assigned Schlesinger credit for certain ideas at the core of ONA's work, and Mr. Marshall was equally impressed by Schlesinger's disposition. Schlesinger came to RAND in the mid-1960s,[3] a time when Soviet intercontinental ballistic missile capabilities were rapidly improving. The mood was glum. The line from serious experts was, "They [the Soviets] are young and vigorous; we are old and tired." Schlesinger injected contrarian optimism: "There's no reason we have to lose," Mr. Marshall described him as saying, "even though we've got general pessimism and nutty estimates of how little it takes them to build this tremendous military capability." Like Loftus, Schlesinger believed that his colleagues were overestimating the opponent. He assessed Soviet defense spending as consuming a much greater share of the Soviet economy than was commonly supposed. Perhaps most important for Mr. Marshall, Schlesinger had the sense that the Cold War competition would be a drawn-out, largely peacetime affair. The question to study was, then, which side can outlast the other? Mr. Marshall identified Schlesinger as the person who helped him develop the idea of a long-term

3 Loftus retired while Mr. Marshall was on a RAND assignment in Europe in 1964.

competition, which in turn defined the kind of net assessments that his office would perform, first at Secretary Schlesinger's request, and then at the request of successive Defense Secretaries through the Reagan Administration. The long-term competition framework meant that the customers for the assessments were the Secretary and the Service Chiefs, i.e., those in a position to make decisions about future forces.

The long-term competition framework—and the questions of comparative resources and resource allocation that it implied—led Mr. Marshall and Schlesinger to seek out the advice of management scholars. They went to Joseph Bower and Roland Christensen at Harvard Business School to learn about how leaders of firms in the private sector made investment decisions with an eye toward beating competitors. From Bower and Christensen, Mr. Marshall said that he learned to ask such basic strategic questions as, "What business [or competition areas] are we in? What are our strengths and weaknesses? What are our competitors'?" Later, Mr. Marshall similarly credited James Roche, who joined ONA as one of the first military advisers after completing a Doctor of Business Administration degree at Harvard Business School, with urging him to ask not just about the opponent's problems or weaknesses, but also about U.S. strengths. Again, decades hence, Mr. Marshall would urge people to "go talk to [by then, Secretary] Roche" about how to use management approaches to improve analysis of competitive dynamics in the defense field. To the end of his days, Mr. Marshall not only cited him but considered him a dear friend.

In roughly the same period as their trips to Cambridge, Mr. Marshall and Schlesinger discovered the work of behavioral anthropologists such as Richard Ardrey and Lionel Tiger, whose theories of man as a primate offered another important lens through which to understand and try to anticipate behavior. In addition to becoming another confidante, "Lionel" would thereafter be shorthand for considering the territorial imperative and other deep-rooted instincts that can lead people, including soldiers and statesmen, to act in surprising ways.

Mr. Marshall's circle at RAND extended well beyond Loftus and Schlesinger, who were roughly his contemporaries. During his time at

the Pentagon, he referred almost as frequently to older mentors such as the psychologist Herbert Goldhamer and the polymath Nathan Leites. Goldhamer wrote a book called *The Adviser*, which Mr. Marshall praised for its copious references to classical Chinese works on statecraft. Goldhamer also kept a journal of his participation in the Korean War armistice negotiations as an adviser and observer for four months in 1951. Mr. Marshall's foreword in the edition published after Goldhamer's death calls him an "extraordinary man" and notes "the strength and subtlety of his mind." In conversation, Mr. Marshall traced some of Goldhamer's insight to his having read the classical Chinese works in German translation after traveling to China before World War II. Mr. Marshall recalled that Goldhamer was particularly struck by the Chinese Legalists. Subsequent events naturally led Goldhamer to compare and contrast Legalist absolutism with that of Fascists and Communists.

Mr. Marshall was also very impressed by Leites's cross-cultural analysis. In addition to citing his more famous studies of the operational code of the Soviet Politburo and military, Mr. Marshall recommended a book that Leites co-authored on the thematic distinctions between American, British, and French movies: Not only did it offer "intellectually fascinating comparative analyses of the themes and contrasting archetypical characters" in these films, but also, "because of this analytical structure that one now carried around in one's head, even poor movies were made interesting," Mr. Marshall wrote in a contribution to a 1988 *festschrift* for Leites. That essay also includes this set of reflections on the technique behind Leites's genius:

> … Nathan focused on the written word. He developed ways of analyzing the writings of a person, a particular group, national elites, etc., finding those particular words that had a special importance or special resonance for them. He acutely followed the evolution in the use of particular words and the shift over time to other words, pondering the significance of these shifts. He applied this technique to a wide set of countries and issues, always with striking success…

This, from a man whose own formal education had centered on math, economics, and statistics. Mr. Marshall's interest was not just clinical, not just in the sources and content of Leites's insights. The essay also contains many *aperçus* of this kind:

> Nathan always sat very erect in his chair and looking straight ahead, perhaps folding his hands on his lap while others were talking, very composed. When he talked he became quite vivacious and had distinctive mannerisms, which I find hard to describe in detail. He often closed his eyes while listening to someone, then came very alive in responding.

Mr. Marshall concludes, "I will sorely miss him the rest of my life."

Following his lead, we might ask, from where did Mr. Marshall's own genius, both for friendship and for defense analysis, come? By his own criteria, timing played a role. Mr. Marshall remembered living through the Great Depression and belonged to the World War II generation, having graduated from high school in 1939. He studied not only algebra and trigonometry but also how to operate a lathe at his technical high school in Detroit, where his homeroom was a foundry. He also read widely on his own, great works of literature and Toynbee's *A Study of History*. His education mixed theory with practice, math and science with arts and letters. He worked full-time in a factory from 1941 to 1945 and then passed an exam that earned him admission straight into a master's program at the University of Chicago. From Chicago he moved to RAND at a time when everyone recognized that the major national security questions around nuclear weapons were new. There were no experts. The field was open. Or rather, the fields were open, as RAND assembled engineers, physicists, psychologists, political scientists, and economists alike. Mr. Marshall reflected later in his essay for the book honoring the Wohlstetters:

> Nobel prize winners were no better than graduate students in thinking about the relevant issues, and at meetings and working groups at RAND in the early days there was no hierarchy.… This is a rare situation, certainly not

> characteristic of academia or normal organizations, and it led to the rapid development of individuals who were willing to address the broadest issues of national security.

It also proved conducive to the formation of long-lasting bonds and the habit of reaching out to and befriending scholars from an array of disciplines. Mr. Marshall's formative experiences included literally constructing the arsenal of democracy and then collaborating with other bright minds to develop techniques for analyzing the postwar security environment.

Mr. Marshall's fascination with the historical ascendance of the West offers another clue about the background he brought to his work and his relationships. While he was a great Francophile, he singled out the Scottish Enlightenment as a period of unusual intellectual vibrancy and flowering. For this reason, it is perhaps worth noting that in describing his own upbringing, he credited his father, a "lowland Scot" stonemason who emigrated to the United States in about 1910, with initiating his career as an autodidact. His father himself read widely and kept a variety of books around the house. Mr. Marshall was the epitome of a self-made man, but he may have seen himself as shaped by his Scottish heritage.

Of course, the real answer is that we can't explain Mr. Marshall's brilliance, either as a strategist or as a friend. We can only appreciate it. As he wrote of Leites, so we write of him, "He was a singularly gifted and talented friend and mentor. I will sorely miss him the rest of my life."

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Remembering Andy

James G. Roche

Prologue, 2 April 2020

Well, it's been a year since my mentor and good friend, Andy Marshall, passed away. It's been hard to accept that he's no longer nearby to consult about the nature of life, love, and the state of humanity. When I was on his staff, he would often wander into my office and sit down in the big chair. "Yes, Sir, how can I help you?" Invariably, he simply wanted to converse. But, he always wanted me to pick the subject and begin the conversation. And, I really mean "always."

Over the years, we covered a panoply of subjects from politics and the state of the Cold War to why young women in California and Israel seemed so lovely (but not exclusively limited to these places.) In the course of these conversations, some special Marshall observations would emerge. My favorite, after I had yet again kvetched about "the Washington crowd," was, "Jim, you must never forget that there simply are no limits to the stupidity some people can cause!"

Andy was a real human being. He had a finely tuned ego, Heaven knows, but he also had deep feelings which he hid behind his silence, a silence which sometimes totally unnerved his fellow conversationalists who didn't know him well.

He held some very special security clearances. A friend of his from industry once observed that Andy held every clearance. "After all, he doesn't speak to anyone." His friends ranged from very special academics, to French international security thinkers, to people deep

into the world of intelligence. And, he loved the Soldiers, Sailors, Airmen, Marines, and Coast Guardsmen. He was a fan of everyone who went into harm's way to defended a country that he, Andy, loved deeply.

I saw him cry only once. One Saturday evening, Andy and his wife, Mary, joined my wife, Diane, and me for dinner. During our meal I told him that I just bought the recorded tape of the TV series, "Victory at Sea." He perked up as I told him how wonderful the score and program were, and offered him an opportunity to watch a part of it. We then finished dinner, and drove to my home. I put in the tape, and played the major parts of it. At one point I found him crying softly. The music was wonderful Richard Rogers, but it wasn't the music. We never discussed it, but it seemed clear to me that his mind had focused on friends and relatives who saw their generation go forth to fight for what America was to them. Andy failed his draft for medical reasons, but he spent the war years building needed parts for our tanks. And, his love for this land, it's people, and principles only grew over the years.

What follows are some short pieces on his fondness of fine food and wine (he always chose the wine when he dined with cretins like me.) They are simple stories that I keep lovingly in my mind and heart.

In the Galilee

In Israel, when you want to get to the Kinneret, known to many as the Sea of Galilee, you merely fly your helicopter to the Jordan River, turn to the north, and follow the river to the southern edge of this famous body of water. It is a rather lovely part of Israel, and it is real estate of great military value to Israel, Syria, Lebanon, and to a lesser degree, Jordan. The southern shore slopes up and includes a military training area.

One day many years ago, Andy and I were doing something we did on every visit to Israel as part of the two-party strategic dialogue with the Israeli Ministry of Defense. Each trip, and there were a number, Andy wanted to spend some time "with the troops." If possible, he wanted to share a meal with them. While dining with Israeli Defense Forces (IDF) Reserves in the field will never be found

in a Michelin Guide, our hosts understood that Andy really enjoyed eating. So, after time with the commander and his staff, and after our tour of the tanks, mobile artillery, and armored personnel carriers, we proceeded to the dining hall. Besides primitive but useful tables and chairs, the only other decor were some posters and the occasional photos on the walls. The dress code was typical of the IDF: fatigues.

After introductions, the meal began. Never in my life have I had such an interesting and unusual lunch. First came a fine soup. Then a different soup. Then an entree accompanied by a nice Golani wine was served, followed by a yet another entree and a different Golani wine. Both were quite good and filling. Meanwhile, the conversation was lively and often filled with humor. But, why two meals? Sure enough, a formidable dessert followed, and, yes, it was followed by a second delightful dessert. I looked at Andy. He smiled but clearly had nothing to offer. So, I couldn't resist. I said, "Colonel, why have there been two of everything?" He was a big, burly man, and he seemed unsurprised by my question. After some starts, he just turned to me and said, "Look, this reserve unit happens to have in its ranks both the head chef of the Tel Aviv Sheraton, and the head chef of the Tel Aviv Hilton. I asked them whether they could work together and provide a delightful meal for this important guest, or divide the courses between them? But this command suggestion meant nothing to them. 'Impossible!' And they then did nothing but argue and scream at each other. I had no choice but to let them each provide a menu and prepare the meal, both of them. You can see that the soldiers who joined us today agree with my command decision." We were laughing, and sampling more wine. Happily, there was only one coffee. We asked if we could meet the chefs and thank them individually. The commander called for them, and they appeared immediately. We thanked them profusely, but neither of the chefs acknowledged the other.

We thanked our hosts, still laughing, and re-boarded the Israeli Air Force helo. We flew back to Tel Aviv via an aerial tour of Jerusalem as the sun set to the west.

Mount Hermon…in Winter

Besides a remarkable surveillance position into Syria, Mount Hermon is the home of Israeli skiing. The IDF leadership thought that Andy should have a chance to visit a base near the top of the mountain. But, as our helo climbed in altitude, we became well aware that it was snowing, and it was really cold. And, we needed to borrow foul-weather coats from the troops stationed there. The snow prevented us from doing much outdoors, so we ate! The helo had brought up a wholesome supply of breakfast rolls. Some soldiers furnished very hot, fresh coffee, albeit in banged up metal cups. I doubt if Andy gained a lot from this excursion, but the troops (who found that snowmobile gear was warmer than any Army gear) had great senses of humor, and entertained us. After an hour or so, we climbed back into our helo and returned to base alongside the Mediterranean, where it was bright and warm.

Eat, Eat, Then We Will Continue.

We never skipped a meal in Israel, including when we were in the West Bank. However, we did have some adventures for dessert. Andy really liked the adventures. While a quiet and seemingly serious man, he never objected to one of these typically late-night meetings. On one of our early trips, and on the first day in country, our hosts decided that we needed to see the heart of Jerusalem, the Old City and the Wailing Wall. We were met there by a few more uniformed soldiers, each wearing a long, winter coat. Fine.

The trip through the souk area was interesting especially because few tourists went hiking through the narrow and often dark parts of the Old City at that time of the day. The plaza in front of the Wall was well lit, and is a remarkable sight to anyone on their first trip. Neither Andy nor I had ever been there before. We visited the Wall and I at least wrote a request on a tiny piece of paper to place in a crack in the Wall. I can't remember whether Andy did the same. A sidebar: I've placed a note in the Wall on every trip to Jerusalem since that night. As a colonel told me, "It's good to write a prayer request here. Why? Because this is a direct line to the Almighty, not long distance!"

After our time at the Wall, we proceeded to an opening that permitted us to climb down into some recent excavations just to the

west of Herod's Stables. We went down to a street level that was used in the time of Herod. Like most cities in the Middle East, over the centuries one city was built on top of what was there before. And, there were few spots where one could be that also were used at the time of Herod up to the Roman destruction near the end of the first century. But, while it was unlikely that the King ever walked from the Temple via this route, it was more likely that Jesus of Nazareth did.

A professor from Hebrew University was our briefer there. Both Andy and I laughed the next morning when the *Jerusalem Post* had an article about the local Palestinians complaining to the United Nations about people disturbing the ancient site near Herod's Stables. Old grudges populate many of the discussions with people who live in the Holy Land. Oh, the soldiers wore long winter coats to conceal the Uzis they packed.

A Pleasant Lunch on the East Bank of the Suez

Once on a lovely day we flew down the Suez to meet with an IDF unit deployed to the southern area of the Sinai. This time our helo was a well-used French one, equipped with the full self-defense package since Egypt and Israel, while not actively fighting in 1977, continued to work on a formal disengagement agreement.

We were met by a sharp commander and his command staff who provided Andy with an extensive briefing on his area of his responsibility. When lunch time arrived, we moved to a nearby building to lunch with the unit, a delightful meal served to us by some very young soldiers. Thoroughly professional and with heartwarming smiles, these women soldiers reminded me that the IDF had a way to go to improve their gender roles. But, not today.

After we dined, we returned to our helo, and took off. We were flying to visit an Israeli deployment of troops near the Mitla Pass which Israel had captured during the 1973 conflict. As part of the disengagement agreement between Egypt and Israel, Egyptian troops occupied a base at the Giddi Pass.

The terrain is mostly desert with rougher terrain as one heads East toward the famous monastery built in the sixth century and dedicated to Emperor Constantine's Mother, Santa Katerina. Our big and old French helo labored its way to the camp. When the pilots,

two young Israeli Air Force (IAF) officers, spotted the camp they circled it, and lined up to land in the middle near the installation's flag pole. As we descended, we had a perfect view of the camp. I was sitting on the starboard side with Andy facing the Israeli general who was one of the key people on the Israeli side of our talks.

As the helo got closer to the ground, I could see the dust flying, but beyond the dust flew the Egyptian flag. We were landing at the wrong camp. The general must have noticed my reaction and turned to look out the window. Moments later he was giving commands in a very strong voice to the colonel who had accompanied us, to get out of Dodge ASAP. The old helo shook mightily as its engine powered up and climbed as fast as it could. There was a temporary Sinai disengagement agreement, but it was 1977 and both sides were still negotiating particulars of a lasting treaty that didn't happen until five years later.

The well-armed Egyptian soldiers we saw guarding the compound were as surprised as were we. As we got to altitude, I looked at Andy. He responded with his own version of a nervous laugh, rolled his eyes, but said nothing. All I could think of was how were we going to explain this to our boss, Secretary Rumsfeld. But I countered this thought with the hope that the local Egyptian commander had no reason to report that his contingent simply stood by as a large IAF helo slipped through their extensive air defenses unnoticed. After we reached our modest flying altitude, I noticed that for the remainder of the flight back to Tel Aviv, the colonel stood between the pilots providing them with "senior navigation assistance." For whatever reason, nothing appeared in the press of either side. Andy was pleased by the whole event.

The Departure Dinner

The last night's dinner was at a very nice restaurant north of Tel Aviv. We were treated to a delightful meal, good wine from the Golan Heights region, some new faces from the government, and more humor. As the dinner drew to a close, our host stood up and spoke of how pleased he was with the meeting, and how much he looked forward to the next meeting scheduled for Washington six months later. As he sat down, he turned to Andy and asked if he had anything

he wanted to add. Somehow, asking Andy to share his thoughts concerned me. I worried for him. Silent Andy? Diplomatic Andy? He rose, thanked our hosts for a very productive set of talks and a truly fine dinner. He then paused, and without any notes he began speaking in his gentle way about why he admired the people of Israel, and how delighted he was to make his first visit. These thoughts then led to the finest elaboration I had ever heard on the subject of civic virtues and the rights and responsibilities of citizens toward their country, and their country toward them. He noted that Israel was a sovereign state where its citizens took their responsibilities seriously, especially when it came to defending its people and its lands. He greatly admired this, and he genuinely admired how the Jewish people had come to Palestine and built a vibrant culture and modern society. He made a special point of highlighting the fact that there were few doubts among its citizens that it was the responsibility of the people to defend this nation against any and all who threatened it. He finished by noting that he only wished that some American politicians could learn this lesson.

I joined our hosts in standing and enthusiastically applauding Andy. Over the years, as the strategic dialogue continued, he continued to gain the respect of the IDF and Ministry of Defense. And, he made sure that they were well fed whenever we met in Washington.

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Andy Marshall: A Gentle and Deliberate Way

John Milam

Andy Marshall was many things to many people: legend, intellectual, mentor, boss. Over the thirty-six years that I knew and worked for him, his most endearing quality to me was his heartfelt and enduring friendship for those he accepted into his extended family. I count myself fortunate and deeply appreciative to have been one of those friends to whom he became and remained devoted throughout his long and fruitful life. The following recollections capture a few of the occasions on which Andy and I interacted. They are intended to honor his long life while perhaps shedding a little light on what it meant to be his friend.

I first met Andy in 1983 when I was a junior analyst working at the BDM Corporation. BDM had won one of the first contracts Andy awarded, Project 186, an ongoing series of net assessments of the military balance between the U.S. and the Soviet Union. By all accounts our meeting had a benign beginning. I was but one of a team of analysts attending a Project 186 in-progress review for Andy. One of the conditions for being allowed to sit in was to follow explicit instructions not to say or do anything to embarrass myself, my colleagues, and my company. I managed to sit quietly in the background and became captivated by the reverential treatment afforded to Andy by everyone in the room. For the life of me, I couldn't understand why. He didn't really do anything other than slowly enter his small conference room, ask a few probing questions in a thoughtful and quiet manner, tell us we were on the right track, and slowly

get up and leave us, to return to his cavernous office. Meanwhile the gentle affirmation we received made my much more experienced teammates ecstatic. I was to discover over the next several years that his gentle and deliberate way could be as powerfully disapproving as approving.

One of Andy's favorite things to do was host his colleagues from abroad who played the same roles for their governments and shared similar interests in the international security environment. Even more telling was his fondness for visiting them in their locales. I was fortunate enough to be invited to accompany him as part an ONA delegation four times: twice to Munich; once to Paris; and lastly to Rome. On my first trip to Munich in 1985, I somehow forgot my instructions not to do anything untoward to embarrass myself and the company. On the day of our arrival, a group of us went out to an early dinner to make sure we would get a good night's sleep to overcome our jetlag and to be ready for a full agenda with our German hosts the next day. Well, one of Andy's military advisers (MAs) (he knows who he is) and I went out for a quick nightcap that turned into one too many. Suffice it to say I overslept, keeping the entire delegation waiting in the lobby for me as I tried to pull myself together and look halfway presentable. When I was finally ready to make an entrance, Andy watched me slowly walk down the staircase, gingerly get on the bus, and take my seat next to the equally hungover MA who, I might add, had been up and ready on time. Making Andy and, by extension, our hosts wait thirty minutes for me, the junior guy on the delegation, was rude and completely uncalled for. But Andy didn't say a word; he didn't have to. All he did was glance out of the corner of his eye at me a few times. He was in complete control without seemingly doing anything.

About a year ago, while having lunch with him at his apartment in Alexandria (he was partial to ham and cheese sandwiches), he asked me if I remembered that time in Munich when the MA and I tied one on and kept the Germans waiting impatiently for us. Sheepishly admitting that I did, I asked him why he didn't just leave for the meeting without me and why he didn't give me a stern talking to.

His answer was pure Andy. "You were a part of my team and I wasn't going to leave you or anyone else behind," he said. "As for

chewing you out, did I really need to?" I was to learn that once accepted into Andy's extended family, you were in. It would take a lot more than some boorish stupidity to be kicked to the curb. He then talked with great affection about the MA (who will continue to remain nameless) and how he should have known better, but all's well that ends well. He left no doubt that he liked a bit of the rogue element, the *je ne sais quoi* that makes people a bit unpredictable, a bit more interesting, and so worth the turmoil they inevitably cause. Instead of cratering what had been a promising career, he became interested in me. Our friendship grew out of that trip and deepened over the ensuing years.

Of the other three trips, the one to Rome was far and away the most memorable then and now. When Andy told me he was going to meet with one of his good friends, Lieutenant General Giusepppi Cucchi, and spend the better part of a week in Rome, I reminded him that I had lived in Rome for a number of years, spoke reasonable Italian, and would be the perfect companion. But he said no, he was just going to take a couple of folks and had already decided who they would be. However, by this time we were close enough that I could pester him about not being invited.

One day while leaving ONA after a meeting, Andy saw me, came out of his office and announced that I had beaten him down so I could go on the trip. Excited by the prospect of meeting the venerable LtGen. Cucchi of whom I had heard him speak so glowingly, I asked him what he would like me to brief. Nothing, he said, just come and contribute to the planned conversations between himself and the Italians.

Since he didn't want a briefing, I thought I could contribute by showing him what I knew of the city. Well needless to say, Andy didn't need any help to enjoy Rome. Once we had cleared the VIP lounge at Fiumicino Airport and settled in to his favorite hotel near the Pantheon, he told us three companions that we should do something to stay up so we could get a good night's sleep later and to mitigate our jetlag. This was my chance to show him bringing me along was a good idea. The Italians had just finished cleaning the Sistine Chapel and I suggested that we should go see it now, its having been restored to its original color and vibrance. Andy thought that was a

good idea and had the military escort assigned to him drive us to the Vatican. When we arrived, there was a huge throng of tourists queued up waiting to get in. Well, the military escort went to talk to the security guards, pointed out Andy, told them who he was, and got him invited to walk right in with the three of us trailing behind. The newly restored Sistine ceiling was all that it was cracked up to be. But taking it all in with Andy was sublime, an experience to last a lifetime.

The rest of the trip was indeed filled with extraordinarily interesting and informative discussions with the good general and his team at their offices in the Ministry of Defense and, at a number of excellent restaurants in the old center of Rome. Andy did not want or need any help in getting around Rome. Rather he just wanted to share his time and experiences to create more memorable memories with his friends.

Over the next several decades, Andy and I were alternately close or detached, based on the vicissitudes of my career that took me to places and programs removed from him and ONA. Still, every time I reached out to him to get together and touch base, he gladly made time and would share what he had on his mind. On several occasions, he had a project in mind for which my particular analytic skill set, built by working for him over the years, was ideally suited. And so we came to share a symbiotic relationship through which we helped one another although he was taking far better care of me than I of him. For that I remain exceedingly grateful.

After Andy retired and had moved into his wife Ann's place in Alexandria, we didn't see each other very much. With Ann's passing, Andy's days became occupied with visits of his friends and extended family. So I started having lunch with him as often as our schedules allowed. At first, we would go to a restaurant of his choice in Alexandria, later he preferred to stay at home. I would make him one of those ham and cheese sandwiches he was fond of and we would sit at his dining room table and shoot the breeze. Andy has always been a man of few words. I told him once that he reminded me of the Oracle of Delphi because he typically only speaks when spoken to, and when he does speak, he speaks in riddles that if the listener has sufficient wit and wisdom, the listener will find meaning and truth in what Andy says. To this he simply smiled and nodded.

The upshot is that despite having been good friends for years, I was somewhat nervous about what we would talk about for the hour or so I was scheduled to lunch with him. I needn't have worried. We would often spend an hour and a half and more talking about his family, early days in Chicago, working at RAND, his friendships with Herman Kahn, Jim Schlesinger, and others, books he was reading, and what he thought about them, current events, the car he was thinking of buying, his favorite restaurants in Europe, adventures he had over the years traveling the Continent, and a range of other intriguing topics.

When Andy passed at age ninety-seven, he left peacefully surrounded by some of those friends he loved and who loved him so well. For me, I am thankful that he gave me the opportunity to give back to him some small amount of the unwavering love and consideration he showed me from those days in Munich in 1985. Inviting me into his home to spend time together when he was not feeling particularly well was intimate and precious. Moreover, he gave me the feeling that my presence and our conversation were somehow reassuring to him that life was normal and everything was going to be OK. No doubt he felt the same way toward those others of his extended family who spent time with him over the last several years of his life. And no doubt that this unassuming, quiet, loving man will be sorely missed by all of those whose lives he enriched just by being their friend.


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The Generosity of Andy Marshall

Keith Bickel

Rare is the human being who effortlessly combines so many characteristics that you realize from your first interactions you are dealing with a special individual, even though you may not be able to put your finger on why. Years went by before I could put into words all that made Andy Marshall that special individual. The nub of it was a generosity of spirit that ran deeper than any I had ever encountered. His generosity manifested itself in a multiplicity of ways I didn't always realize at the time either, but have been blessed to understand and appreciate since.

Start with Andy's ability to reach across generations to source talent for his Office of Net Assessment. When you consider, he started ONA bringing in officers from the military services who were only slightly younger than he was. In the decades he ran the office, the ages of officers he brought in remained roughly the same, as you might expect, while his own essentially doubled. In the case of civilian Fellows he brought in, well, several of us were nearly a third his age. He treated everyone the same. There was no paternalism, no "this is how it's done." Quite the contrary. Because of our expertise, we were expected to help shape other Fellows' knowledge. We were accorded the same courtesy, the same privileges, the same demand for rigorous, disciplined and creative thinking as everyone else before and since. Age was immaterial. A mind was a mind, and he was going to infect it with knowledge and a way of thinking about the future and send it back out into the world. A demand for mental excellence—asking the right question—and an unusual gentleness of interaction were the

great equalizers Andy used to put the people around him on the same level.

Andy was professionally generous in other key ways as well. Everyone talks about his humility in never taking credit for others' work, their ideas, their successes. Likewise, he never took credit for his role and that of his office in helping change the course of American strategic thought—especially near the end of the Cold War. But there was another trait that I think speaks to his generosity. Most who knew him understood his avid interest in interdisciplinary approaches to problems. In an age where specialized knowledge is prized—perhaps iconically so in the military—Andy was generous in giving time to hear ideas from others who pursued different trees (much less, branches) of knowledge. His abiding love of anthropology—and by extension his friendship with Lionel Tiger—is but one example. I saw others.

He was also generous in a way more indirect and thus easy to overlook. He surrounded himself as much as possible with equally kind and generous people who paid forward his generosity of spirit. The net result was to foster an incredibly supportive environment designed to bring out the best thinking of its inhabitants. Inevitably, lifelong friendships resulted. I think here of Tom Welch, to whom I was assigned as my office mentor, and the officers of the period, like Jan van Tol, Larry Seaquist, Pat Curry, and even later ones with whom I still have a strong affinity decades later.

Andy's gentle generosity became personal for me over time, as I know it did for so many others. When I was a doctoral student, I was one of those types who woke up my poor wife in the middle of the night agitated over how was I going to make my mark in the history of this great nation. Andy let me do just that, allowing me to leave a legacy of my own and earning my undying loyalty in the process. Then he let me do something else I didn't quite expect. He let me into his personal life a bit. Apparently, all you had to do was ask. Now, Andy was famed for the sheer agony and often futility of trying to engage in small talk with him. But if you asked the right question about his personal history, he would open up. This was a surprise to many others! Office mates were completely flummoxed when I learned all this detail about him one year up at Summer Study

in Newport. Later, I got to know his first wife, Mary, who at several holiday parties completely ingratiated herself with my friends two generations younger by her wit and razor-sharp tongue. Years after her unfortunate passing, when Andy was blessed with a second love, he invited me to accompany him to the courthouse for a special moment to pick up his marriage license and meet his bride-to-be, Ann.

Long after I had moved on from ONA, Andy maintained our intergenerational friendship. Naturally, it unfolded over the bond of food. Every year he let me take him out for a birthday lunch at the place of his choice, often Jaleo's. Over food, Andy talked to me like an equal. He even, on a couple of critical occasions, let *me* talk to *him* like an equal. (Not that I ever was.) But he truly listened, and one time even put an ongoing project on the back burner after a particularly honest and difficult conversation. Such was his humility and generosity that he could allow, absorb, and act in the face of criticism from a very junior colleague. What a powerful lesson that remains for me to this day. Perhaps my favorite food-related memory, though, involved breaking into Andy's car (his beloved Mustang!). We had finished dinner at Jan's house and were all getting set to depart when Andy couldn't find his keys. A quick flashlight search found them still in the ignition, doors locked, windows up. Of course. Despite all the loud doubters gathered, I cleanly broke into the car within a few minutes. This feat earned me one of Andy's famed arched eyebrows and an appreciative comment about certain useful talents he didn't realize I had—and he didn't want to know how I acquired them.

With Andy's passing, we are all left with memories of a special individual, gentle and generous. These are some of mine, plus one more. To the end of my days, I will cherish the memory of holding his hand days and hours before his passing—an act that geographic distance denied me with my own dad. And when my own days are over, my family will still know of his importance to me, to us, through the Marshall name that my own son carries as one of his own in honor of a great man.

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Golfing with Andy

Jeff McKitrick

Taking up golf in your late seventies is not a typical approach to the sport, unless if it is a devious strategy to "shoot your age." So when in the fall of 1995 I half-jokingly suggested to Andy that he join some of us at our next golf outing, no one was more surprised than I when he quietly agreed. "Okay" was his reply—without any inquiry as to who, where, when, why, how…well, forget the "how." He didn't know how to golf. No sense inquiring about that.

That didn't really seem to be the point anyway. Nor was it the "where, when, and why." It was the "who" that mattered to him. And not some famous "who." Or some incredibly smart "who" he was dying to meet. Or some well-connected "who." Nope. Just some analysts who had been working for him for several years, both in the Office of Net Assessment and as contractors supporting the office. A couple of retired military officers. A couple of civilians. Just folks. Folks he knew and liked. Folks he liked being around.

We started off easy. Went to a driving range in September. He wore his "uniform"—khaki pants, long-sleeved blue shirt (no matter the temperature), tennis shoes on his feet, and his floppy blue hat on his head. No loud golf shirts and pants for Andrew W. Marshall.

Our first golf outing was in November 1995—East Potomac Golf Course on Hains Point in D.C. A par three (not too difficult) and close to home. Not that he went directly home right after a round of golf. Heck no. We were going to have a few drinks, and he was eager to join us. For the camaraderie. The companionship. The sharing. He liked listening to our stories. Some from our military careers. Some

from our nonmilitary careers. And our jokes. Boy, did he like our jokes. Bad as they were. In fact, I think he laughed even harder at the bad ones. Well, chuckled. No guffaws coming out of Andy. And he liked the good-natured needling we gave each other—and him. He was part of "the gang."

We played at several different venues over the years—Hains Point, Reston National Golf Course, Fort Belvoir's Woodlawn and North Courses. Every once in a while, a "tune-up" at a driving range. The golf, of course, was not too impressive. We would play "Captain's Choice"—select the best shot from the foursome and everyone would play their next shot from there. I made sure that at least one of us was a real golfer, so we wouldn't hold up the group behind us on the golf course. Andy would tee up his ball, get into his stance, swing vigorously, and usually hit the ball. Once it went 100 yards and he was thrilled! He got that look of surprise—eyebrows up, eyes wide open, slight smile of disbelief on his face—"I can't believe I did that," it said. But what he could do was putt. Not like a pro, of course, but he was as good as most of us. Maybe he was concealing some miniature golf in his distant past.

We played a couple of times the following year. And a couple of times the next year. That became the pattern for several years. A spring outing. A fall outing. He witnessed the only hole-in-one I ever got in my life, and I think he enjoyed it as much as I did. At one point I suggested he ask his good friend Jim Schlesinger to join us. He did. Schlesinger proved to be the strategic analyst we all thought he was. He declined. Bird-watching was more interesting, he said. Probably true.

The following year when I asked Andy to go golfing, he followed Schlesinger's lead. He declined. He wasn't really very good, he explained. And really, all he had wanted to do was spend some time with people he liked. And he could do that without golfing. So he hung up his "spikes" at the age of eighty. That was a pretty good run.

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Non sibi sed patriae

Scooter Libby

Spring 2019. Outside it is a brilliant spring day of a kind we once shared. In the early 1990s, Andy Marshall force-marched us without maps through three Parisian *arrondisements*. Our quest: to find a modest sidewalk café that, he asserted, had the city's best crème brûlée. So far as I could judge, it did. For some, the tiny cafe might seem an incongruous spot for discussions of post-Warsaw Pact Soviet nuclear doctrine, evolutions in French strategic thought, mammalian patterns of aggression, and Camus; but it was all very Andy.

It had, all in all, been a typical day for him: virtually silent during the official meetings, slightly disappointed in the content, hoping to tease more from the morrow, he encouraged us to think about the few bits that had intrigued him. He sat through many such days. Yet he could be quite different when asked about issues or intellectual heroes of earlier times. Then he would speak at length, weaving long lines of thought with remarkable recall of details. I puzzled over this disparity for a time, until I realized the purpose behind his Yoda-like silences: he sought to avoid stifling others' thinking by revealing his own. Andy waited patiently for us to stumble onto something new—especially, rarer yet, something new to him.

More than any other single focus, Andy sought to understand how things really are, not how models or conventional "wisdom" would force reality into a Procrustean bed. In this pursuit, he was ever eager to draw insights from widely diverse fields, ever skeptical of the man of one book. He was an intellectual omnivore, with the dedication and patience to gather various strands and the intuition to

weave them into pictures of possible futures. He had, in Isaiah Berlin's phrase, the gift:

> The gift we mean entails, above all, a capacity for integrating a vast amalgam of constantly changing, multicoloured, evanescent, perpetually overlapping data, too many, too swift, too intermingled to be caught and pinned down and labelled like so many individual butterflies.[1]

In his younger years, Andy was close to many of America's truly best and brightest. They hung about one another through work days and social nights, sharpening ideas like blades on a whetstone. A friend recalls Andy, lips pursed and silent while his best friend, the inestimable Herman Kahn, spun thoughts. The friend recalled how Andy would suddenly lift his chin from his breast and interrupt, saying, "That won't work; people don't act like that." Legend has it that Andy accompanied Kahn on his honeymoon and that the two developed a gambling system that supplemented their RAND wages, until their winnings got them thrown out of Vegas.

In his famous essay "A Methodological Framework: The Alternative World Futures Approach," Kahn spoke of the essential linear and nonlinear elements of strategic thought:

> In dealing with the problems of national security and international order, there are no adequate substitutes for such "tools" as relevant and accurate knowledge, experience, perception, judgment, insight and intuition.[2]

Andy pursued these equally, knowing that the last of these often put him beyond the comfortable range of consensus thinking. Another modern great, Henry Kissinger, first brought Andy to government and empowered him to challenge dominant bureaucratic thought. Kissinger summarized the problems that thinkers like Andy face in promoting new analyses and strategies:

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1 Isaiah Berlin, "Political Judgment," in Berlin and Henry Hardy, *The Sense of Reality: Studies in Ideas and Their History* (New York: Farrar, Straus, and Giroux, 1997), p. 46.

2 "A Methodological Framework: The Alternative World Futures Approach," in Paul Dragos Aligica and Kenneth R. Weinstein, *The Essential Herman Kahn: In Defense of Thinking* (Lanham, MD: Lexington Books, 2009), p. 184.

> Ultimately there is no purely organizational answer; it is above all a problem of leadership. Organizational remedies cannot by themselves remove the bias for waiting for crises and for the avoidance of long-range planning.[3]

Stone memorials from the post-WWI era of Andy's youth dot a thousand towns across America, England, and France. Time and the elements have not yet erased the motto commonly etched upon them: "*Non sibi sed patriae*"—Not for self but country. Herein lay Andy's antidote to the biases Kissinger laments. Andy had lived through dark WWII and Cold War times. Decades of peace had never lulled him into complacency, nor dulled the courage of his convictions about proper analysis, policy, or people. While others chased the latest topics or shunned risks, he stayed true to the great challenges he foresaw. He believed protecting America demanded no less.

An acute sense of irony and humor tempered Andy's sense of urgency and shielded him from day to day as he strove to push the bureaucratic boulder back up the hill. Many a time his eyes shone brightly as he chuckled at misguided intelligence products or policy assumptions. His was a tireless love of country without illusions, pretensions, or drama. When others fell short of what he thought the country needed, he would shrug as if to say, "There's only so much idiocy one man can prevent." Then he would put his shoulder back to the boulder.

In nearly thirty years, I've never heard a disparaging comment about Andy. Truly. He had no children, but in his final days more gathered by his bed and prayed earnestly for him than people with families of fifteen or twenty. If among them lay a negative thought, I did not perceive it. Well, perhaps there was one: he left us too soon.

In one quiet moment a day before he died, Andy took up a question about the past. His labored breathing interrupted him many times. Each time it seemed he might have finished; but the rasping passed, and he resumed. A transcript would show each sentence thoughtful, precise, well-formed, the answer lucid and insightful. His thinking, ninety-seven years in the making, remained acute to the end.[4]

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3 Kissinger, Henry A. *White House Years* (Boston: Little, Brown, 1979), p. 39.

4 This essay, begun in the spring of 2019, was amended a few weeks after Andy's passing.

I was present when, late in his life, Andy unexpectedly said to someone, "You're a terrific man." The man, accomplished and well into middle age, was taken aback. For a long moment he could not gather his thoughts. Months later I ran into him at an airport kiosk between flights. He told me, without affectation, that he would carry that compliment, above all others, through life. That is the kind of affection and respect Andy generated and generates still. For many of us, Andy was the "terrific man." I trust that Providence has granted him a just reward: flawlessly sunny Parisian days surrounded by friends and endless crème brûlée.

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A Gentleman and a Friend: Reflections on the Past 25 Years with Andrew W. Marshall

Rebecca Bash

Andy and I first met more than twenty-five years ago when I was in a contracting shop in the bowels of the Pentagon, responsible for awarding contracts on behalf of the Office of the Secretary of Defense. One of my primary clients was the Office of Net Assessment (ONA). An issue of data rights arose on one of the contracts in the ONA portfolio and a meeting was convened in the ONA conference room, at Andy's request. He listened to the discussion and made no comment until he had heard enough, at which point he rose and said, "we will see about that" and left the room. Andy was correct.

A few years later I was offered a position in ONA as the Contracting Officer's Representative and to manage the study budget and portfolio of contracts for his office. For the next twenty years I had the privilege to work for him as he systematically executed his strategic vision for the office and the Department at large.

But more important are the reflections of the past few years. When I was able to help a man that I respected and loved like a father. His compassion and the way he loved, especially his late wife, Ann, were truly remarkable and an experience one is blessed to be a part of. He told me that the most important aspect of life, for him, was to have someone to love; not to be loved, but for him to demonstrate his love. In the months preceding his passing, this became a topic we returned to more often—one of gratefulness and the complexities of love. For example, I mentioned that I planned to read again *The*

Odyssey of Homer, at which point he had me find on one of his multiple bookshelves a book to read before delving into *The Odyssey*. His remembrance of the book, its characters, and their adventures was truly amazing as I read and he discussed the book and its meaning.

In the last few months as he would reminisce over his life, he remarked that he had lived an extraordinarily blessed life—one where professionally he worked on projects of great interest to him personally and which had value to our country, but also the people. He felt extraordinarily blessed to have met and worked with so many wonderful people. His recall of names, places, and dates was an enviable quality as he talked about times past and events that shaped his life.

One such event was his not being able to serve his country by wearing a uniform and going off with his classmates to serve, because of a heart ailment, which doctors at the time believed would not allow him to live past his twenties. This diagnosis left an indelible mark on his view of himself, though most thought of him as a great patriot; he did not share that view of himself. He devoted the rest of his life to the betterment of this country—a lifetime of service. He was working and having meetings in his condo up until a week before he passed.

I am so grateful to have had this man in my life for so many years and for the discussions we had; he was patient and kind, a man of few words, but a good listener. We shared similar views on many topics and talked often about religion, politics, money, and food—cooking was a favorite topic, and each day we compared our respective dinner menus. He encouraged me to try new things and new ways to prepare foods, recommended cookbooks and methodology for the proper preparation of food. I miss our talks about money, finance, investments, and travel. He had excellent recommendations on places to stay and restaurants to visit in Paris. Before one of my trips to Paris, he mentioned a restaurant he wanted me to try and gave me a travel book, in French, which he translated for me and when I returned, he showed genuine interest in the trip and the food I had enjoyed. He said he would have liked to get back to Paris one more time. Knowing his love of food, we planned weekly lunches to various restaurants in Old Town Alexandria and in D.C., some way off the beaten path. Medical appointments were always scheduled so that we could stay

and have lunch, often times with long walks in between. One of my fondest memories of lunch is one we had in the park in between two appointments. We packed food for the day and sat on the park bench and enjoyed the beautiful weather, shared our food, and talked.

Andy was more than the work he did and the books he read, he was a man of varied interests and enjoyed the pleasure of a life well lived. One such interest, which we shared quietly, was going to the range for target practice. He said he had not had the opportunity to fire a handgun or rifle since his youth and it was something he enjoyed and would like to do again. One of my greatest memories is going to the range with him and shooting various handguns. He was a good shot, even though he had not been shooting in years. The more we practiced, the better he got. Most important, we had fun. I may be the only person who gave him ammo for Christmas and birthdays.

A man who had no biological children was a father to many.

He was a man of character, of principle, and above all else, a man of his word—a true gentleman. I am honored to have had so many years with him and to get to know this extraordinary man. He was my mentor and friend and I will miss him for the rest of my life.