

Prof. Ronnie Shephard Memorial Address

Honoring ISMOR Friend, Eugene P. Visco<sup>1</sup>

36<sup>th</sup> ISMOR, 25 July 2019

Dr. Simon R. Goerger, MORS President 2019-2020

## Opening

Good evening ladies and gentlemen. Due to the *Royal Holloway Heat Wave* of 2019, I will be presenting an abridged version of this evening's speech (*omitted elements*). The full version will be available online after the symposium.

I thank you for inviting me to join this wonderful community of operation analysis practitioners and teammates. It is insufficient to say, but I am deeply honored to be give this year's Ronnie Shephard Memorial Address. Moreover, to do so surrounded by the history and art of the Royal Holloway. As we approach the end of the third day of ISMOR, it is appropriate to reflect personally on the lessons we have learned from its three-topic areas: a) Expanding OR - *hard situations requiring soft analysis*; b) Efficiency and value for money; and c) Modelling and Simulation for military operations. For which we have heard many wonderful presentations and held numerous discussions. To complement these components of ISMOR, I would like to take this opportunity as the current MORS President to honor a great friend of ISMOR and MORS, Eugene P. Visco. Know to all of us as "Gene", Most Senior Junior Analyst.

In doing so, I will provide a view of the brief history of OR through the life of one of its early analyst and mentors who adding to its richness as well as being influenced by its founders, journeymen, and master craftsmen. I will also provide some of Gene's most recent incites on the OR profession.

BLUF: Gene attended 29 ISMORS over his career. His first was 6<sup>th</sup> ISMOR; he missed the 7<sup>th</sup> ISMOR but attend the remainder through the 35th. This long and fruitful relationship illustrates how much Gene valued this event and community, its information, traditions, and

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<sup>1</sup> This presentation was prepared from extracts of several sources: 1) Gene Viscos' 31<sup>st</sup> ISMOR Prof. Ronnie Shephard Memorial Address (30 July 2014); 2) emails from UK Memories of Gene May 2019; 3) conversations between Simon Goerger and ISMOR attendees of the 36<sup>th</sup> ISMOR; 4) Staniec, Cy, Kether, Greg, and Waltensperger, Mark, "A Fallen Giant: Gene Visco, FS; Remembering an Icon of the Profession and Society," *Phalanx*, Vol 52, No 2, Page 15-22, June 2019; and 5) "One Analyst's Experience with Chemical Munitions Testing" *Phalanx*, Vol 34, No 2, Page 17-19 & 30-32, June 2001.

relationships.

## Introduction to Gene

If you build a word cloud of Gene Visco, not surprising to those who have known Gene the expressions that dominate the cloud include **Army, MORS, ISMOR, Research, Analysis, Junior Analyst, Fellow, Mentor, Giant, Ronnie Shephard...**



However, where did this Giant come from?

## Gene the man, the myth, the legend!

Gene's defense career had a rather humble beginning. Born in Boston in 1927, Gene enlisted in the Navy in 1944 at the age of 17, after finishing high school.

*Having joined the Navy toward the end of World War II, he trained as gunner and ordnanceman for Martin Mariner long-range amphibious bombers. He was sent to the Pacific, but by the time, he finished training, the war was over, and he was placed on shore duty in Hawaii and in the Philippines. One of his jobs was to watch for returning patrol seaplanes, then swim out with lines used to help beach the aircraft. He used to credit that period as his first education in military tradition and operations that ultimately became useful later in his analyst's career.*

After two years of military service, he returned to the US, where he enrolled at the University of Miami in Florida in 1946, graduating with a degree in math and physics in 1950. *Awaiting his next professional opportunity, he volunteered in a community recreation program, where he exercised some drama skills he had developed by coaching youth in amateur acting. He used these same skills during every interaction with me.*

At the beginning of the Korean War, the government offered him a GS-5 job at Dugway Proving Ground, and Gene headed into the world of chemical ordnance testing. *More personal growth there ensued, when, around 1955, through a study being conducted at Dugway, he met the esteemed Dr. Ellis Johnson, Director of the Operations Research Office (ORO) affiliated with Johns Hopkins University, which was on dedicated contract to perform analysis for the Army.*

### The Cold War and Vietnam— The Operations Analyst Emerges

Impressed by Gene's capabilities, *Dr. Johnson invited him to join ORO <hired him> in the fall of 1956. It was at this point that Gene first became an operations analyst, the same title shared by all ORO staff, regardless of their trained discipline. During this period, Gene was part of a large chemical study, as well as working on developing the Train Fire system of random pop-up targets that the Army still uses in small arms training. For him, memorable events included a re-creation of Picket's Charge at Gettysburg to understand the demands of such an operation and use of a model named "Carmonette" to support one of the earliest cost-effectiveness studies on the emerging M1 tank, nearly twenty years before it reached full operation capability.*

In 1961, Gene moved to the new Army contractor for analysis, Research Analysis Corporation (RAC), taking over lead of cost-effectiveness analysis. Looking for added challenge, he next volunteered to join RAC's first field office in Germany. *There, he set about learning what the issues facing US forces in Germany and was drawn into the Secretary of Defense-mandated rotary wing aircraft study for the Army. As part of the study, he briefed the theatre commander on the rotary wing study and what was planned next. The commander told Gene he did not care what the results might be, because he knew how he planned to use rotary wing aircraft in his theatre, and no study result was going to change his mind. Wisely, Gene and his colleagues decided to invest their efforts in studying logistics.*

*A passion Gene developed in Europe was the gathering of field data to support analysis. He crisscrossed field exercises including the first REFORAGER-type exercise in 1963, gathering data on movement rates and targeting details. He ultimately expanded on that data, incorporating operating locations and logistic support, using it to drive a small exercise war game he built.*

*Additionally, Gene participated in what was a detailed test of the usability of NATO standard ammos in the M14 rifle. This was important to the Army, since it was being pressured to adopt the AR15. Although Gene's well-designed field experiments did show that the M14 could indeed fire all variants of NATO standard ammo reliably, Gene learned his next lesson, that your analysis seldom overcomes pressure from the top, as the M16 (AR15) soon replaced the M14 in the Army inventory.*

During this European phase, Gene had his first introduction to international operational research. In 1963, while visiting the British Army Operational Research Group, he first met the esteemed British analyst, Professor Ronnie Shephard. This initial contact turned into a lasting friendship and international relationship. Years later, when Ronnie stepped into a void left by the dissolution of a NATO Operational Research meeting and initiated the International Symposium of Military Operational Research (ISMOR); he called on Gene to draw in the United States military. More on Gene's roles in ISMOR in a few minutes.

With the emergence of the Vietnam War came the next change for Gene, as in 1967 he joined the Combat Operations Research Group (CORG) and took a team of civilians to Vietnam to support a group of Army officer analysts. Gene's team supported the Army in looking at how combat vehicles were being used in theatre, spending most of their time synthesizing information to generate the larger observations of the study report. Upon returning to the US, the Army gave Gene the notable task of writing the command critique of his own study, since it considered him eminently well qualified to criticize his own work.

### **Mid-Career—An Analyst in Full**

In the 1970's, Gene worked for several contract companies doing various types of analysis and in 1979, Gene joined the Federal Government's Metric Board, where he claimed, he was there to prevent adoption of the metric system by the US government.

Soon afterwards, Gene moved into the Study Program Management Office, under the Army

Chief of Staff. *While in that office, Gene attended the Harvard course for senior government officials in national security, and the National War College.*

*Thus, Gene was fully prepared* In 1987 when the Goldwater-Nichols Act caused a large-scale reorganization of the Army Staff, and the Army Study Management Program, Gene moved to the office of the Deputy Under-Secretary of the Army for Operations Research (DUSAOR), working for Mr. Walt Hollis. Whereas most of Mr. Hollis' analysts carried a combat materiel systems portfolio, Walt gave Gene "softer" systems and concepts, including chem/bio, computers, and operations other than war, which were rising in significance and demand in the Department of Defense (DoD) at the time.

Therefore, it is fair to say that at this point Gene had made the transition from "practitioner" to "influencer". A good part of that influence was channeled through MORS and ISMOR where he served to the US and international OR communities for decades. *Gene was a member of MORS since the early 60's and was a member of the Board of Directors from 1969 to 1973. In 1989, Army Sponsor Walt Hollis made Gene his Army Sponsor's Representative, a position that Gene filled for a decade. As a true influencer, when meetings ended, Society officers and directors often listened intently when Gene Visco delivered his closing thoughts.*

*When the distinction of Fellow of the Society was created at the end of the 1980s, Gene was elected in the second cohort in 1990, joining some of the most renowned names of American military operations research.*

Through his Influence, Gene's innovations often became traditions. Thus, appropriately, he lived this motto with his personal involvement in, and his continuing efforts to integrate the US with international military operations researchers. To many of us, and to MORS, his role(s) with ISMOR is the most notable. It did not take long in the history of ISMOR for Gene to be recognized by UK's Ministry of Defence as the official US co-chair of ISMOR, and for him to become MORS's official liaison.

Through Gene's efforts, MORS has had long "mailing lists" of international analysts that Gene came to know over the years, that were invited to and participated in MORS special meetings and symposia, and now count themselves as members and friends of MORS.

## The Most Senior “Junior Analyst”

Gene retired from full-time federal service in 1997, but he did not retire from operations research, MORS, or ISMOR. One of Gene’s first acts upon retirement was to establish Visco Consulting. His description of his consulting business reflected his personal interests and the expertise he had gathered over the years: “Military operations analysis services to US Department of Defense components, UK Ministry of Defence, and US defense contractors. Focused on a wide range of topics...”

Over the next 12 years, Gene remained active in MORS and ISMOR as well as his consulting Company. However, at the encouragement from his “friends”, he ultimately decided to come out of retirement at the age of 82 to begin full-time work with Lockheed Martin. Gene was back in his element, and he relished the role.

Gene’s vast experience made him a natural for mentoring most of the Lockheed team, being the “conscience of operations analysis,” and being heavily involved in the Lockheed Martin Workforce Development program and the Lockheed Martin Operations Analysis Community of Practice.

*Lockheed Martin provided Gene an opportunity to work on his greatest and newest passion, autonomy and artificial intelligence (AI). Those who knew Gene know he had a great appreciation for the emergence of disruptive technology and how that could complicate military operations and decision-making consistent with his passion for studying Clausewitz’s Fog of War.*

*Always seeking to mentor, before his passing, Gene was working with members of MORS and Lockheed Martin, to establish a MORS AI and Autonomy Community of Practice.*

## The Most Senior Junior Analysts Last Chapter

As he had during the rest of his professional career, Gene left his mark during the last years of his life. Gene continued to attend MORS symposia and special meetings as well as ISMOR meetings with the enthusiastic support of Lockheed Martin corporate headquarters.

Always want to participate in mentoring analysts, Gene showed up to the December 2018 MORS Emerging Techniques Forum in Washington, DC *with picks in his arm after just being*

*released from the hospital in Florida the weekend before the event. When asked why he had not stayed back home in Florida, Gene told me he did not want to miss the ETF and was planning to visit his grandchildren after the symposium. On his return trip home, he had a mishap getting off the airplane and fell. He began to suffer mobility impairment afterward and cancelled his plans to attend the Artificial Intelligence and Autonomy Special Meeting at Johns Hopkins Applied Physics Laboratory in February. However, he was still looking forward to participating as a working group chair at the MORS Analysis of Urban Warfare special meeting in Quantico in April 2019, reluctantly pulling out only when it became apparent his health would not support his attendance.*

Always dedicated to his profession, Marianne asked him what he wanted to do when he got back home, and he answered, “Get back to work!”...

In the words of the Vice President of Business and Strategy Development who approved his hiring at Lockheed Martin, Gene “was a real gentleman who brought exceptionally deep experience to the job, and even more so, he was a positive influence on the OA team with his steady, unflappable and mentoring qualities.” *In the words of his lead at Lockheed Martin corporate, “Gene Visco embodied passion, humility, and a strong sense of purpose.”*

Gene Visco lived a long life and in the OR community, he was larger than life, *a Giant*. As long as it was, for those who knew him, it ended too soon.

He was coherent, his memory so clear. Each time he saw me, Gene engaged me with his gentle and constructive thoughts about OR techniques, MORS leadership, and the ISMOR relationship. He epitomized the notion of a MORS Fellow; someone recognized for his or her contributions and continued contributions to the Society.

### **Gene’s Reflections on OR**

As a mentor, influencer, master craftsman, Gene held strong opinions of about the OR community. *He often remarked that what we do today is not what the founders did in their day. He felt it was a wonderful opportunity to have viewed operations research from his first awareness of the concept in 1954 through the end of his time with us in April. Over the years, he modified his opinion that much of what we do today is akin to what they did in the beginning. He was particularly proud of what the many deployed analysts had accomplished during the recent wars: UK, US, and analysts from other nations.*

Although he was proud of the work done by current analysis; he did **NOT** believe the professional education system and the status of OR groups in the defense organizations, as well as in non-defense and private sector institutions was the best means of educating OR practitioners. He believed the present formal, particularly graduate level, education programs were rarely relevant to the many-faceted practice of OR. He held to the ancient notion of apprenticeship; *apprentice* -- one who is learning by practical experience under skilled workers. I am honored to have been one of the many apprentices under this *master craftsman of our profession*.

Gene greatly believed in the importance of multiple means of enhancing OR skills and OA relationships. Among the presentations made at the meeting of the Operational Research Society celebrating the 50<sup>th</sup> anniversary of OR, one of the World War II analysts stated that, in his opinion, an important trait of a good military operational analyst was the ability to drink beer in the Mess with serving officers. That is a trait Gene not only believed in but one he embraced with vigor!

## Honoring Gene

*As I mentioned earlier, Gene first attended the 6<sup>th</sup> ISMOR (1989) and a total 29 total ISMORs (all but the 7<sup>th</sup>). He played a central role for decades in coordinating US participation, from publicity through to collating and reviewing the US papers. In the earlier years, up to a third of participants were Americans and that was key to the character and success of ISMOR; Gene was fundamental to that. Of course, he also made a significant personal analytical contribution through his own research, which he presented at over 11 ISMOR symposia. In addition, Gene delivered the Ronnie Shepherd Memorial Lecture at the 33rd ISMOR in 2016. He last presented at ISMOR 2018, on the topic of “An Army of None—Autonomous Weapons and the Future of War.”*

It is insufficient to say that Gene was a strong advocate of linking MORS with ISMOR. He brought his own singular personality to ISMOR, of which I know many of you who had the chance to engage with Gene have your own “Gene stories” to relate. One example is a “rumor” that after the Wednesday outings to Oxford ceased, most of the second-hand bookshops closed and the pubs found it touch and go due to Gene’s lack of opportunity to patronize either while in the UK for ISMOR. Additionally, ISMOR planning conference calls



that Gene participated in during what were the very early hours in Florida were never the same after he described sitting by the phone wearing his pajamas.

To honor Gene's contribution to the ISMOR and MORS communities, the month before he left us, the MORS Board of Directors established the Eugene P. Visco Prize for International Collaboration in Operations Research (*22 March 2019*). The prize promotes collaboration between the international operations research community and MORS by providing one or two presenters selected at its annual Emerging Techniques Forum (ETF) funds to attend and present at the next ISMOR. As part of the award, each selected presenter will be provided admission to the ISMOR and travel expenses. To honor Gene's role as the Most Senior Junior Analyst, the goal is for one of the selected presenters to be a MORS Junior Analyst. This award was developed in a collaboration between the ISMOR team, Lockheed Martin, and MORS Past President Norm Ritter. *18 June 2019, MORS summarized Gene's many contributions and announced the new prize during the 87<sup>th</sup> MORS Symposium Plenary Session held at the United States Air Force Academy, Colorado Springs, CO.*

### Final Words

Gene was a gentleman and a diplomat, loved and respected by all. A tremendous character, Gene was both guiding light and calming influence through turbulent times. In closing, I have one last Gene story from an earlier ISMOR, which will lead toward another motto he supported, ***"We do it once, it is innovation; we do it twice, it is tradition!"***

During the 11th ISMOR in August of 1994, Gene was at ISMOR without his friend Ronnie Shephard who had taken ill, but Gene was confident the symposium would go off without a hitch *under the tutelage of Trish Follow* except for the banquet. Fortunately, Gene was advised to seek the guidance of the Roberts Hall Mess Manager, Ms. Goodfellow. Gene met with Ms. Goodfellow and she walked him through the various steps of the banquet process. Sometime during this walk through, she turned to Gene and stated: "You are going to toast the Queen, aren't you!" Gene responded with the observation, "Prof. Ronnie never toasts the Queen." She shuffled a bit closer to Gene's face and said: "I know. YOU are GOING to toast the Queen, aren't you!" To this, Gene rapidly analyzed this request from Ms. Goodfellow and pragmatically asked, "If I do that, what about all the other nations at the symposium? If we toast them all, as protocol might suggest, we would be terribly tipsy by the end." Under such logic, the Mess Manager gave Gene the toast that would take care of

that aspect: "To the Heads of State here present." As did Gene in 1994, I am breaking with the past. I propose a toast that may next year become a new tradition.

*To Prof. Ronnie Shephard, the ISMOR Founder, and Eugene Visco, our MOST Senior Junior Analyst, who are looking down on us with a sense of satisfaction for a "job well done". To Ronnie and Gene!*