NewsLetter

Polaroid Retirees Association

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THIS PUBLICATION IS SOLELY FOR THE USE OF THE PRA MEMBERSHIP
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President's Letter

Dear PRA Members,

As surely as autumn has transitioned into winter and the hopes of a new year emerge, we can turn our thoughts to a more promising year for the PRA. The holidays have come and gone and we look forward to a more "normal" year in 2023, one in which we may once again be able to see each other in person.

We have survived almost three years of Zoom meetings and missed PRA Luncheons. Some of our members have recently withstood the ravages of Hurricane Ian in Florida, and have emerged with typical Polaroid resiliency - solving problems and helping neighbors.

With that optimism, we are looking forward to seeing many of you again in May at our Annual Luncheon and Business Meeting. It is planned for **Monday, May 22nd**, at The Warren Center in Ashland, Mass.

The Direct Federal Credit Union again plans to underwrite the event.

Please Save the Date! Mark the May 22nd on your Calendar!

And please note that it will be held on a **different weekday,** a **Monday**.

We hope you'll call or email your old friends now, and plan to meet at the Luncheon. Visit The Warren Center website (warrencenter.com) to check out the inviting meeting rooms, surroundings and the routes to our new venue.

The Governance Commission, proposed in May and formally approved at our August board meeting, has made its first report in this Newsletter. Its job is to consider planning for the years ahead. The first phase of the commission's activities was to construct a survey soliciting your view of the PRA. We are pleased with the number of respondents and with the depth of the response. We noticed that many respondents asked for more information about the obituaries, particularly about where fellow employees may have worked. If you recognize a colleague or friend, **you** can add information about their projects or workplace. There's a note on page 3 with directions for adding your own thoughts following a posting.

A follow-up survey is currently being constructed. It will be sent by email. Please note that your survey will arrive in an email with "Polaroid Retirees Association Survey #2" in the title. It asks for your ideas about the future of the PRA and what types of activities you might enjoy. We hope to get a more focused idea of how we structure our activities for the future.

Members have indicated that you've enjoyed articles about Polaroid's people and projects. We have two such stories in this issue and we are eager to publish more. If you have a Polaroid memory you'd like to share, we'll help you get your story into print. We want to hear from you!

Welcome new Members **Annmarie Masci** from Arlington, MA, and **John Hurd**, also from Arlington. We're very glad to have you here!

Finally, it's time to send in your 2023 PRA dues.

Happy New Year to All!

John Flynn, *PRA President*

PRA Governance Committee Findings from Survey #1

The Governance subcommittee of the Board of Directors is conducting several surveys to learn what the membership most values and wants from the PRA. We want to generate enthusiasm among retirees in reconnecting with friends and colleagues from "the good old days" by offering enhanced and interesting activities to bring us together.

We sent survey invitations to more than 750 PRA members and received responses from 140-150 members. The subcommittee members appreciate those responses, and we thank those who completed the survey. We want to share the initial findings with *Newsletter* readers and urge all readers to help when the second survey arrives.

Note that 3 of our questions produced bar charts and required no interpretation. Also please recognize that in addition to the members mentioned below, committee members **Dan Cence**, **Edyie Johnson** and **Bill Rosen** contributed heavily to the preparation of the survey and the ongoing analysis of responses. This first survey had six questions requiring interpretation; each question went to one member to distill and interpret. ***Ruth Scanlan***

Q1: (Bob Ruckstuhl) ***"What are the reasons that you have continued your PRA membership over the years?"***

The responses voiced by the vast majority of the respondents were "Keeping in touch" and "Staying connected." Many members went further and offered some details as to how they went about "staying connected". Those details included; Reading the *Newsletter*, Attending luncheons, Reading the obituaries, Keeping up with Polaroid news and events, Seeking out and Listening to what others are doing, Meeting with old friends, and Learning about the company and its history

Q2: How important are these PRA benefits to you?

The *Newsletter* had the highest ranking, followed by website and the annual luncheons. Out of a possible ranking of 5.0, the *Newsletter* was 4.80, Website 4.18, Semiannual luncheons 3.05.

Q3: (Mary McCann) ***"If the PRA were to offer other activities, which would be of most interest?"*** *Choices: Day trip group outings, small group meetings, such as luncheons or reunions at a restaurant, lectures or museum visits, or virtual site-specific or department gatherings.*

One hundred and nineteen retirees responded to this question. Virtual department or site-specific gatherings received 40 responses and Small group meetings at a restaurant 39. Group Day-trip outings received 27 responses with Lectures and Museums 19.

Many members cite mobility issues, or distance from meetings as reasons they can't participate. Zoom availability would increase flexibility around meeting location, time of day, and size of venue.

Q4: (Don Foster) ***"If you could pick one social activity that you would enjoy doing with your Polaroid friends, what would that be?"***

Of the 118 responses to this question, over a third of the members mentioned face-to-face gatherings. This included the traditional PRA luncheons and meetings; small group gatherings (perhaps organized by building, project, product, site, function, or department); and breakfast meetings. (A meal seems important to Polaroid folks!)

Some members cited "special events" for gatherings, such as golf, sports events, performances, holiday parties, lectures, tours, and family-related activities. Several people suggested virtual meetings using Zoom, allowing visits and meeting participation among colleagues at distances.

Q5: Many of the benefits that could be offered require a comfort level in certain types of software. Please check those that you would be willing to use:

Out of a possible ranking of 5.0: Zoom or similar meeting software, 3.81, Facebook, 2.73, Chat Rooms, 1.94 Online event registration 3.72, Online payments for events 3.54.

Q7: Analysis of membership location via ZipCodes: This information will help in planning events at areas convenient to members.

Q6: (Arthur Aznavorian) ***"Please give us any other of your thoughts, ideas, suggestions."***

Members stressed how much the semi-annual in-person meetings meant to them and their willingness to pursue Zoom meetings as an alternative. Zoom meetings were of particular interest to those who live outside the Boston area and have never attended a luncheon meeting. Some felt that our meetings should be on a rotating basis around the Boston area. Also mentioned were regional/smaller meetings structured by original Polaroid work site or project.

Several members applauded the continued fine work of the *Newsletter* (staff). Articles about the "good old days at Polaroid and stories from the past" seem to be the most favored, with the "obituaries" section running close behind with several members requesting more "work site" background information on the deceased. *You can help us by adding that info on the website. See page 3.*

The PRA received several kudos for "keeping the organization and the memory of Polaroid alive" and strong encouragement to keep it going.

Q8: (Ruth Scanlan) ***"Please provide a quick assessment of the survey and suggestions for improvement."***

Most members thought the survey was easy to use and asked the right questions to enhance the offerings to the PRA membership. Some of the comments shared by respondents are both insightful and humorous: liked having a list of possible activities, liked the questions on technology, not a two- or three-minute survey, think and hope you are moving in the right direction, wonderful you are reaching out for members' comments, need to maintain former worker relationships, Polaroid connections are important and it is most enjoyable to recount past activities and friendships.

Suggestions for future events: road trips most appealing, bad bowling, pretend-good golf, scrapbooks of memories available for sharing, regional get-togethers, "It would be good to find a venue that would attract younger members (under 70)," online payment of dues, and "We ask only that you keep us informed of who is still around," day trips.

How Can You Help? The Governance Committee

Replies to the recent survey asked that we might include information after an obituary about where our fellow retirees might have worked. – **You can help us!**

You can read retirees' full obituaries at the Bulletin Board at the website *polaroidretirees.org*

YOU can add information directly to their listing on the "In Memoriam" page.

- Click on **Bulletin Board** on the Website Welcome page *polaroidretirees.org*
  The Bulletin Board has eight folders on the left of the screen
- Click on the "+" sign beside the "In Memoriam" folder
  The list of obituaries, their entry date, and the name of the person who posted the notice and remembrance will appear.
- Click on the obituary of the person you are interested in.
  The full obituary will appear along with any other entries that have been added.
  You can add their department, building or other memories. Here's how:
  - Click on the small grey **Reply Button** above the name of your colleague.
  - A new screen, **Posting a reply to the message** will appear.
  - Fill in the "Short Message Title" and then
  - Write your message under "Enter the text for the new message below."
  - Enter an **8 Letter password and your name** (both are required, and *write the password down)* then
  - Press **Submit Message.**

A small plus sign will appear beside the name of the deceased, indicating there is a new message. **Thank you!**

Please note: the steps above will also permit additions to the other folders on the Bulletin Board.

Other Ways You Can Help

We learned from the survey that many members are eager to participate remotely in get-togethers, both large and small. This means that we will have to develop expertise in arranging such events and in different parts of the country. If you have experience in using Zoom or other interactive group platforms, we could use your advice. Drop a note to the NEWSLETTERPRA@GMAIL.COM telling us of your interest in helping us learn how to include remote participants.

The Survey also revealed that while many PRA members use the PRA Website, few members use it in a timely manner to communicate with other members. It's been many years since the website has been updated, and we will be considering the possibilities of doing that soon. If you have experience in website design and would like to help, please let us know.

Finally, there are a number of Facebook groups focused on different Polaroid Alumni groups. A listing of the various groups, their different focus and a contact for each group could be a helpful posting. Again, let us know at NEWSLETTERPRA@GMAIL.COM

38 Henry Street, Home of Polaroid's Optical Engineering Department

by Peter Clark

38 Henry Street, Cambridgeport was the home of Polaroid's Optical Engineering Department. It was a nondescript building that shared the parking lot with 640 Memorial Drive, the large brick building at the Cambridge end of the BU bridge.

640MD was built by Ford Motors in 1913 as an assembly plant. They tested new Model T trucks on the roof! Much later it became Polaroid's optical manufacturing plant, producing injection molded plastic lenses there until they moved to Norwood (N1) in the '80s. When Polaroid's population peaked in the late '70s that large parking lot filled up, and shuttle buses brought people to work.

38 Henry Street, looking west

38H was said to have been a warehouse for dog food before Polaroid moved in, but Rival Foods, Inc. of 38 Henry Street, Cambridge, actually distributed people food. Rival built the building in 1926. The Optical Engineering conference room had been part of a large refrigerator. Its thick walls were lined with SX-70 test photos until we moved out!

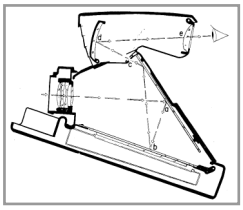
Coincidently, there was already a tradition of optical excellence on Henry Street. We were proud that next door, at 50 Henry St, had been Alvan Clark & Sons, who famously manufactured record-breaking large refractive astronomical telescopes in the late 1800s and who continued making optical instruments there until the 1930s. In 1862 the white dwarf companion of the star Sirius was first seen by telescope from this property. This photo is probably from the '20s, and it shows a large weed-covered relic of a Clark telescope in the open air on Henry Street with the Clark factory (1860-1936) to its right. That telescope/mount was built ca. 1883 to test a 30 inch diameter (!) objective lens.

The ancestor of Polaroid's optical engineering at 38H was **Dr. Land**'s two-color television project. By the mid '60s, **Larry Ting, Chuck Giles**, and others were working on video there. Before that time, optics for cameras were designed by experts like David S. Grey and manufactured outside of Polaroid. Those systems were shepherded into production by Polaroid insiders, notably **Stanley Haskell** whose long career at Henry Street lasted into the '90s.

The Optical Engineering Department had a history of innovative work in support of Polaroid products. The SX-70 camera (1972) was a tour de force of optical design and manufacturing that would be difficult to accomplish even today. It was developed at 38H when **Dr. Richard Weeks** directed the Optical Engineering Department. The SX-70 optics development responsibility was given to **Dr. William Plummer**. Bill worked with **Dr. James G. Baker**, an astronomer and distinguished lens designer. Baker had designed the optics for the cameras on the U-2 and SR-71 spy planes and he got to know Land well during that cold-war period.

Alvan Clark & Sons test mount and factory on Henry St., 1920s.

For SX-70, Baker and Plummer, working closely with Land, designed an amazingly innovative camera. It had to fold flat like a book when it wasn't in use. The taking lens design (4 glass elements) had excellent sharpness and provided close focusing with a very short mechanical travel. The viewfinder was a miracle for its time. It was a single-lens reflex design (SLR) – you viewed and focused through the taking lens. To deal with the unusual folding requirement, it used two plastic lenses and a curved plastic mirror, but the complexity of their optical surfaces was unheard of at the time. Each of those parts had optical surfaces with no rotational symmetry. This made them difficult to design (Baker's job) and difficult to tool, measure, and align in the camera. There was also an extraordinary plastic Fresnel mirror that was non-symmetric. It was precisely textured to maximize brightness while allowing the user to focus the image (Plummer). Of course, all the problems were overcome and (with integral film and the flat battery) a revolutionary product was born. Enter *Life* magazine, Sir Laurence Olivier, Andy Warhol, Marie Cosindas, et al.



SX-70 viewfinder path

The SX-70 lens measurement problem was recognized early, so the development of a profilometer with optical precision began. **Vern Ford** led the mechanical design, **Larry Ting, Nat Gold, and Vinny Antonucci** did the electronics, and **Dr. John Mader** wrote the software. With this machine, we could evaluate the complex shapes of molding tools and molded parts. Then, a similar machine was built with the ability to machine optical surfaces directly by cutting them with a single diamond tool. This was the beginning of a new class of optical fabrication: Single-point diamond machining, or "diamond turning," which has since become a standard method for producing aspheric optical surfaces. That first

profilometer was called "CLIDE" (an easily forgotten acronym) so the first diamond turning machine was, naturally, "Bonny." Continuing with whimsical naming, later machines were called "Huey" and "Dewey." Huey provided accurate 3D measurements over a large volume, and Dewey could grind non-symmetrical optical molding tools with a precision of about one millionth of an inch. **Ed Yobaccio** assembled and aligned Huey and Dewey. Those instruments were basically stacks of heavy polished granite blocks precisely floating on thin cushions of air. They were moved by extremely large voice coils, like giant loudspeakers, controlled by computers with laser interferometers. They measured and cut surfaces with unprecedented accuracy.

After SX-70, Bill Plummer succeeded Dick Weeks as Director of Optical Engineering. He continued to work with Dr. Baker on another innovative application of non-symmetric optics, the "Quintic" lenses for the Spectra camera (1986). Spectra used a pair of molded lenses which had no axis of symmetry at all. This radical design gave the Spectra continuous focus variation by a simple lateral rotation, moving one lens of the pair across the optical aperture. Its automatic focus setting was very fast. Tolerances were relaxed so the cost of the taking lens was much lower than the SX-70's.

The Spectra had a complex viewfinder system, with six plastic lenses and four mirrors, needed to keep the camera's profile compact. This was designed and developed by **Dr. Stephen D. Fantone**, who left Polaroid to start the Optikos Corporation. Steve continued to consult for Polaroid, notably contributing later to the design of the PDC-2000 digital camera and other products. (Personal note: I spent 4½ enjoyable years doing optical design at Optikos until retiring in 2020.)

When I joined Polaroid in 1983, the Optical Engineering Department was an amazing place. The breadth of the capabilities under one roof was hard to believe. There were five or six optical engineers and designers. Dr. Baker still came to Henry Street as a design consultant most afternoons and nights. He worked astronomer's hours in his large cage in the 38H basement. There was the "glass shop" where highly skilled opticians ground and polished lenses, prisms, windows, and steel molding tools. I've already mentioned mechanical/ electrical/software design and development. Ed Yobaccio ran two injection molding machines, making prototype plastic parts and developing molding processes. Diamond turning and precision measurement work was done by **Don Combs** and John Mader. **Monis Manning** (a chemist!) was an honorary member of the group. He developed dyes for tuning the transmission of plastic lenses. There was a vacuum coating lab for producing reflective, antireflective, and color selective coatings, run by **Chuck Giles** and later by **Patricia Kendra**. There were general labs, of course, and a unique facility for testing camera lenses managed by **Walter Chadwick** with **Nick Ford**. A complete model shop was there, dedicated to optical engineering work but organizationally separate. The direct access to those skilled machinists was invaluable. Department administration was handled by a succession of individuals with the patience, skill, and humor to keep things running smoothly.

I am writing mostly about the Optical Engineering Department, but we shared the building with two other optics-related groups. **Gene Marckini** and **Mike Eden** ran Commercial Optics, marketing Polaroid's optical capabilities to the world beyond. In the '80s, the company recognized the potential of fiber optic communication, so the Fiber Optics group was established in the top floor of 38H. Two well-known pioneers in the industry were recruited: **Wilbur Hicks** was a visionary of fiber optic communications, and **Dr. Elias Snitzer** was a well-known laser expert, leading the development of very high power fiber lasers.

Plenty of R&D was done in the Optical Engineering Department. Bill Plummer did fascinating work on the imaging properties of Polaroid film and cameras, and of digital cameras, pointing out ways to improve the customer experience with camera, film, and sensor design choices. Bill always had uniquely inciteful explanations of how optical systems work.

John Guerra invented an ingenious system for visualizing and measuring submicroscopic surface structure using frustrated total internal reflection. That was particularly useful for evaluating the quality of our diamond turned surfaces. Outside groups would also bring samples to John for evaluation.

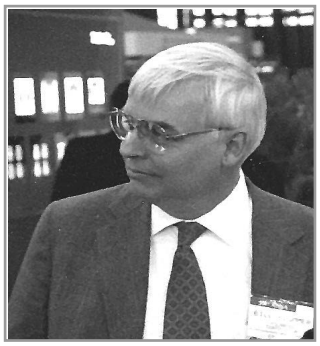
In the late '80s, we investigated the new field of diffractive optical elements. **Dr. Carmiña Londoño**, Bill Plummer, and I published papers about its capabilities and its limitations. We were the first to demonstrate that it is possible to produce efficient diffractive optical surfaces by diamond turning. Carmiña earned her PhD at Tufts with a study showing that a single plastic lens having both refractive and diffractive power can be made with a focal length that does not change with temperature. Soon, we would successfully implement molded plastic DOEs in the unusual Macro 5 SLR medical close-up Camera (1995). Carmiña and I did the optical design of its five taking lenses, aiming lights, and SLR viewfinder. It was a large camera that worked quite well, taking photos at five discrete magnifications (0.2, 0.4, 1, 2, and 3x), and it made a dramatic cameo appearance on the TV series "ER"!

Polaroid Macro 5 SLR

Consumer cameras continued to be developed, of course. **Jon Van Tassell** was the optical designer for Captiva, an important camera project. It was an ambitious folding SLR, like SX-70, introduced in 1993 along with its new film.

In the digital era, some of us worked on digital printing on Polaroid film. **Phil Chapnik** came up with a clever design that performed very well. The idea was that customers would always want an instant print to give to a friend or sell to a customer, but cameras in mobile phones ultimately won out.

Over the years, the department worked on lots more than Polaroid cameras. We designed and built optics for compact bar code readers, CD/DVD objectives, digital fingerprint imagers, heads-up displays for vision-impaired people, laser scanners, fiber optic connectors, and much more.



***Bill Plummer** in Chicago for Helios 1989*

Optical Engineering was heavily involved in the Helios project to make high resolution thermal prints for medical applications (x-ray, ultrasound, etc.) Building on Polaroid's impressive advances in high-power diode lasers, and on the fiber optics technology developed by the research group (also in 38H), we designed the optical print head that was manufactured for Helios. We made very small acylindrical glass lenses for the lasers by forming them at a large scale (>10 mm) in the glass shop and then heating and pulling them like taffy in the fiber optics drawing machine. They would keep their shape with high accuracy as they shrunk down to ~0.1 mm widths. Amazing! The extremely high precision optomechanical work on the print head was done by **Dr. Douglas Goodman** and **Dr. Jeffrey Roblee**, with Bill Plummer. The Helios printer was introduced in 1993.

Doug Goodman was a brilliant optical systems expert, and he kept a huge collection of optical curiosities and toys in his lab. He was widely known for his entertaining rapid-fire lectures demonstrating optical phenomena with an overhead projector, and he did hands-on demos for school kids in the Henry Street conference room.

In the late '90s Polaroid moved out of 38H. A new facility for Optical Engineering was built in Waltham (W1). We had beautiful new labs and offices, plus great climate-controlled facilities for the precision machines, which were disassembled in Cambridge and rebuilt in Waltham. Unfortunately, we would stay there for only a few years. In that period, Bill Plummer was succeeded by Jeff Roblee. Then Polaroid's bankruptcy forced us to lay off much of the group. Key capabilities were combined with Optics Manufacturing in Norwood and sold to a private investor to run as a company called Precision Optical Systems, ending our days with Polaroid in 2003.

The Optical Engineering Department was a close-knit organization – and quite a collection of vivid personalities! It was a mixed blessing that we were isolated from much of the company by our location and because of the specialized work that we did, but some of us got to travel to nearly every Polaroid location to work with our customers. The love of optics and precision mechanics was in the air at 38H. Lively discussions about the work were a big part of the culture. We participated in the larger optics community, too, presenting at conferences, publishing papers, and volunteering with technical societies. The group had an excellent reputation beyond Polaroid.

*A cold walk. **Tom Desjarlais** (optician), **Larry Ting** (EE), and **Jane Bareau** (optical engineer) when 784MD was wrapped up for renovation.*

We took our mission seriously, but not too much so, I think. We met every morning when the coffee truck would stop on Henry Street. There were lunchtime ping pong games that could get very competitive and loud. We enjoyed our annual Christmas party at 38H with our families and **Phil Norris**'s band. We'd walk over to Brookline to cheer the marathoners once a year. And, of course, there was jogging and walking around the river, Harvard Square for lunch, cycling to Tech Square for (ugh!) meetings, Toscanini's for ice cream, etc.

It was a real privilege to work on challenging projects with some of the very best optics and imaging experts in the world, and it was certainly great to be in Cambridge!

This has been a personal perspective of about 35 years of history. Many stories and accomplishments and individuals had to be left unmentioned. Here is an incomplete list of more Optical Engineering Department alumni, in approximately chronological order:

Optical Engineers: **Cal Owen, Yves Conturie, Ann Sweeney, Jane Bareau, Mathew Chang**

Mechanical Designers and Techs: **Bob Forsyth, Tony Gonsalves, Bob Eaton**

Opticians: **Ben Beaudry, Bob Woodruff, Ray Jacobsen, Tom Desjarlais, Dave Marshall, Gary Corrigan**

Model Makers: **Tom Loftus, Henry Haekimer, Steve Witten, Bill Norton**

Admins: **Karen Jensen, Mary Fulton, Anne Burns**

Thanks to **Bill Plummer, Steve Fantone, Carmiña Londoño, Mary McCann and John McCann** for their help with this, and my sincerest apologies to the talented people whom I've neglected here!

Peter Clark

Florida Members Report on Hurricane Ian

PRA President **John Flynn** reached out to our 66 Florida residents in October saying, "On behalf of the PRA Board, I write to extend our sincere wishes that you and yours are safe, and, if you were hit by the storm, that your home and your loved ones came through it without any serious damage."

We received the following responses:

*From **Scott & Holly Osler***

First of all, the Weather Channel was predicting that the storm track was well north of here, towards Tampa. However, hurricanes wobble and Ian wobbled right into Sanibel and Fort Myers. We were home in our golf community which is about 14 feet above sea level and inland about 12 miles from Sanibel. We have a generator and I had just bought 10 gallons of gasoline which is good for about 2 days.

Based on wind direction it would seem we spent 8 to 10 hours in the eye wall. The wind was from the east for a few hours, then from the South, and finally a furious wind probably well over 100 mph came from the West. None of our windows shattered although many did in our community. The power went out while the wind was blowing from the West.

I started the generator and we ran power to the refrigerator, some lights and some fans. In the morning most of our neighbors brought over cell phones to charge. Large trees blocked both ends of our street but since we had reports that no gas stations had electricity, there was no reason to go anywhere.

We are fortunate to have a good friend on the Atlantic coast of Florida and we started putting the frozen food from our refrigerator into coolers. We drove across the state, fortunately on roads that weren't flooded, 48 hours after the hurricane struck. We stayed with our friend for 4 days until power was restored in our area. The effects of the storm are visible everywhere and will be for some time. But we are fine and were never in any significant danger.

*From **John Thomas***

I'm living in Palm Coast, FL, fortunately on the east coast about 25 miles north of Daytona Beach. By the time Ian made his way across Florida, the winds were down to about 65mph. Dangerous, but nothing like the 105+mph when he came ashore in Florida.

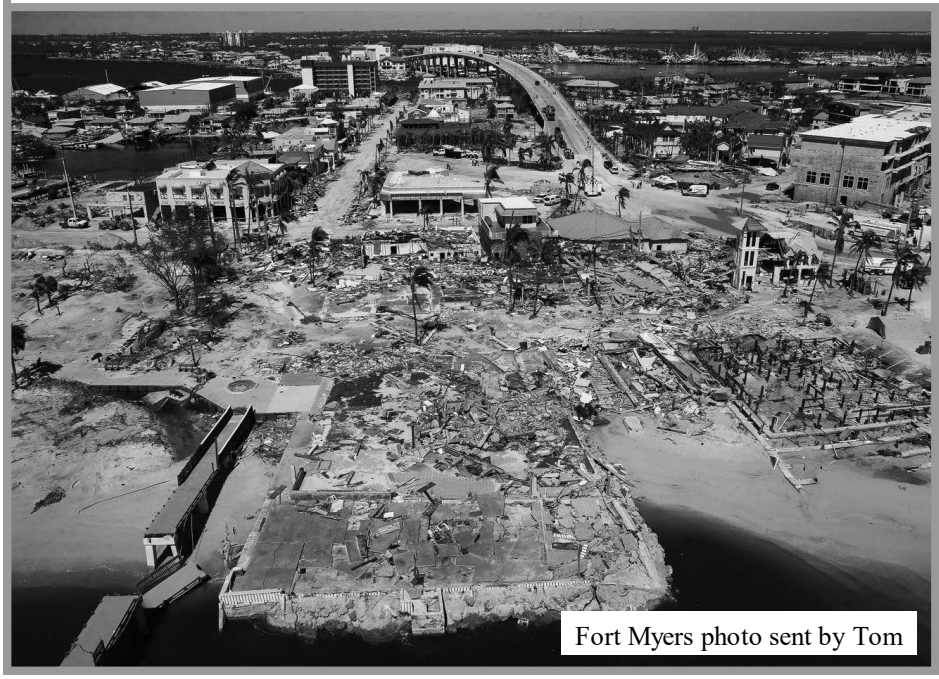
Our area is definitely not prone to flooding, so we received only widely scattered minor damage from the rain. We're also about 6 miles from the ocean so storm surge was never a concern. We were very lucky to have received no damage at all to our house. However, we did lose power for 3 1/2 days.

So, closing the barn door after the horse got out, I have since purchased a generator and will be prepared for the next one. All good here in Palm Coast.

*From **Tom Donovan***

Thanks for reaching out to us Polaroid Retirees in Florida.

My wife and I decided not to evacuate so we got a front row seat to a really powerful storm! The wind was a constant 140 MPH at our house for hours and hours. Thankfully we are in a brand-new home and we sustained very little damage.



Fort Myers photo sent by Tom

Many of our friends were not so lucky. Downtown Fort Myers was completely flooded. All the restaurants and shops were inundated with six feet of water. Most are still closed. My son Michael lives and works downtown and his apartment complex was under 8 feet of water. After the storm they found two 50-foot yachts wedged between their buildings. He and all his neighbors have been forced to move.

Fort Myers Beach was completely destroyed! There are very few buildings left standing. I have attached a couple of photos of the debris from the downtown businesses, Michael's apartment, and Fort Myers Beach.

Regards from The Sunshine State.

The Polaroid Flat Battery: Dr. Land's Pet Project *by Milt Dentch*

While there are over 500 patents held by **Edwin Land**, three product groupings contain the vast majority: polarized films and devices, instant film products—and batteries. When the development of the SX-70 Integral film product was well underway, Dr. Land decided to incorporate a battery in the film pack. Land was project leader in the development of this innovative power source and was granted many patents relating to the battery. The Polaroid flat battery was a prime example of Dr. Land's fearless approach to challenging existing science with his own set of rules. Commercial batteries in the 1960s were typically round. Polaroid's battery had to be flat to match the landscape and geometry of the film pack. The flatness requirement ultimately provided a tremendous benefit to the performance of the battery, as having the anode and cathode electrodes facing each other, allowed much higher energy discharge than conventional round cells.

RAY-O-VAC: THE EARLY YEARS

Several battery manufacturers were asked to bid on producing a six-volt flat battery, using Leclanché cell (carbon-zinc) chemistry, which was the technology of the standard dry cell battery used in flashlights, etc. In addition to having six volts, the battery would have low internal resistance, high reliability and cost six cents each. Ray-O-Vac of Appleton, Wisconsin was the successful bidder, and by 1970 had installed equipment at their factory, and developed a process to produce the first-generation battery. Polaroid and Ray-O-Vac formed a partnership that resulted in many Polaroid employees relocating to Appleton to bring the new product on line. The intensity and importance of the entire SX-70 program resulted in **Max Lawrence** of Polaroid taking up residence in Appleton to manage the combined R.O.V.-Polaroid effort. Dr. **Sheldon Buckler** was Polaroid's senior officer on the program reporting to Dr. Land. Dr. Buckler would lead the company through several generations of batteries.

SX-70 went to market in 1972 using the R.O.V battery. The battery performed as advertised relative to energy; however, manufacturing yields were poor and the six cents cost goal did not materialize. Customer failures were also at an unacceptable level. In retrospect, the R.O.V. machine attempted to combine too many steps into one. A design flaw, that eventually caused the machine to be replaced, was the slitting step that separated the finished batteries with rotary metallic blades. If cutting was not done perfectly, the blade would short between cells, and destroy the battery or, on occasion, cause a fire.

The R.O.V. battery machine supplied batteries during the first few years of SX-70 production. When the yield problem and slitting concerns were not showing the required improvement, it was decided to redesign the process into a more manageable operation. The battery failures were near catastrophic at the customer level. While many of the failures would occur before insertion in the film pack, others would happen after the film had been sold to the customer. As a short-term solution to the problem, batteries were stored in the warehouse for three months to allow the bad batteries to die and be culled before assembly in the film pack. Even then, about 5-10% would fail in the customer's cameras. Experienced Polaroid photographers developed techniques; whereby, if the camera didn't operate because of a dead battery, they would go into a dark closet and slide a new battery into the pack without exposing the film to light.

THE ABAMs: THE P70 BATTERY

This major R.O.V. manufacturing problem led to the creation of the Automatic Battery Assembly Machine, or ABAM—and the P70 battery, which was built and put on-line at Polaroid's facilities. The ABAM used the same webs from R.O.V., but the slitting was done before assembly, thus avoiding the shorting problem. A total of seven ABAMs were built, each capable of making one battery at a time at the rate of 140 batteries per minute. By the mid 1970s, each ABAM was producing approximately 30 million P70 batteries per year. The first three machines were installed at 45 Fourth Avenue in Waltham, Massachusetts. Although many people were involved in this program, **Louis Bruneau** and **Bob Keene**, from Polaroid's Engineering Division, were considered by most to be the designers and guiding spirit of the ABAMs.

The ABAM's increased the production yield and lowered the cost significantly compared to the R.O.V. process; however, reliability at the time of use by the customer continued as a concern due to difficulty in sealing the edges of the flat battery to contain the battery chemicals. So, the aging of the batteries continued in the warehouse for the three months before assembly in the film pack.

To improve the battery seals, Dr. Land and team invented a unique vent for the battery assembly to allow hydrogen gas to escape, relieving pressure on the seals. While the vent alleviated the seal problem, there was evidence the vented gasses were contaminating the photographic film. Land led the development of another addition to the battery, a "getter" that absorbed the gasses and eliminated the contamination. As SX-70 sales increased, the additional machines required more space. W45F contained ABAMS 1, 2, and 3. To provide space for electrical reliability testing, 186 Third Avenue in Waltham was rented. R5 was constructed a mile from W45 Fourth Ave on Winter Street in 1977-78, and became the home of ABAM's 4, 5, 6, and 7. By 1980, the three buildings contained about 700 people. About 700,000 batteries were produced by the seven machines daily.

THE RBAM: P80 BATTERY

The first SX-70 cameras had a flash bar triggered by a low energy electrical impulse; hence the battery mainly had to power the motor drive and electronics.

When the 600 Star cameras incorporated a strobe, the battery was required to charge a capacitor at high amperage to minimize recharge time—about four seconds. Polaroid loved customers who rapid-fired film every four seconds. The 600-strobe system required approximately four times more energy than the original SX-70 camera. Although the P70 battery could power the 600 system, there was little margin for someone using a two-year-old pack of film in cold weather, where the conditions increased the battery's internal resistance, reducing the battery's available energy If the battery had high internal resistance, the recharge time was increased. Studies had shown that customers did not want to wait much more than ten seconds to take the next picture.

The need to pack more energy into the battery (and reduce internal resistance) led to the development of the 3rd generation battery—the P80 and its assembly equipment, the RBAM (Rotary Battery Assembly Machine). While the P80 was being developed, the 600 Camera was introduced along with a modified P70 battery called "Bigfoot." This battery had the same external dimensions as P70 but packed more chemicals into the electrodes. This provided sufficient energy for the strobe; however, the additional chemicals were difficult to contain in the sealed battery; high failure rates resulted during manufacturing and customer use. Bigfoot was a product for about three years.

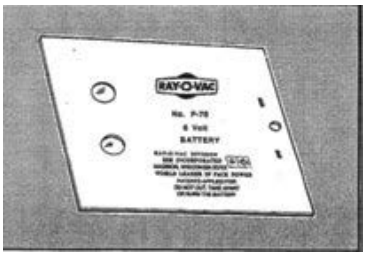
By early 1985, the P80 process was performing well enough to cease ABAM production. There was much discussion on this, considering the P70 battery could power the SX-70 (TZ) cameras which accounted for approximately 15% of the battery requirements at the time. The decision to phase out P70 was based on quality. The first few years of P80 had a failure rate at least four times lower than P70. The adhesive in P70 would be difficult to improve on the existing ABAMs, and thus the poor seals would continue to be a problem. Additionally, there was considerable dependence on non-Polaroid suppliers with the P70, while P80 placed more manufacturing in Polaroid.

The P80 battery development was an example of Polaroid scientists, engineers, tradesmen and manufacturing groups combining to create a unique process, unlike anything existing in the battery industry at the time. The previous ABAM's employed what was referred to as "pick and place" intermittent motion machinery, stamping out one battery at time; the RBAM produced four batteries side by side, as a continuous web. The capacity of the RBAM machine, when initial start-up issues were resolved, was approximately 500,000 batteries a day, compared to the 100,000 per day produced by each ABAM. The P80 program leader, working under direction of Dr. Buckler, was **Vince Merry**. Scientifically trained and organizationally gifted, Vince worked with the zeal and passion of Dr. Land.

Bob Keene was the key engineering lead-designer of the state of the art, one of a kind RBAM. Many on his team made contributions: **Ron Fawcett**, **Jim Stevens**, and **John Kennedy** come to mind. The manufacturing efforts, including the building of plants and infrastructure to support the battery operations, were led by Division Manager **Al Hyland**, with his staff: **Bob Jacobs**, Plant Manager; **Bill Wilson**, R5 Program Manager and Manufacturing Manager; **Doug Holmes**, Technical Director; **Bob Wolf**, Purchasing Manager; **Dave Clifford** as Quality Manager. I was Engineering Manager. An unsung hero in the Battery Division's history was **Frank Ceppi**, Quality Manager for more than a decade, 1985-1996. Frank, with his diligent oversight of the battery quality department, developed a tight discipline on change control to improve the P80 battery's quality.

During the start-up of the RBAM, the machine was run by the engineering team from EFED (Equipment, Facilities and Engineering Division). Eventually, the EFED group transferred the leadership to the R5 production team, led by Plant Manager, **Janet Cramer**. Janet brought a refreshing, much-needed change to the plant. Many of the machine operators were women. They, along with their male counterparts, rallied behind Janet's leadership. Within a few months into Janet's assignment, the RBAM was setting records for productivity. RBAM operators **Mary Wilson**, **Kay Creech**, **Flo Cameron**, **Paul Fitzgerald**, **Jim Murphy**, and **Harvey Wormley** were among the many hourly personnel that supported the successful operation of the RBAM for many years.

Paul Plasse developed an excellent research team, the Battery Development Laboratory (BDL), to support the Battery division, by designing and testing the webs and chemicals used in the P80 battery. Paul developed several excellent scientists: **Kasey Norvaisa**, **Alfredo Kniazzeh**, **Dennis Mailloux** and **David Kennedy**, who all went on to fine careers at Polaroid after BDL was dissolved.



RAY-0-VAC Battery

P80 Batteries

In Memoriam

Find more complete obituaries at www.polaroidretirees.org

Bachtel, Susan L., 62, Medina, OH, 2/21/22 was the wife of Michael, mother of Sarah, grandmother of Elliot, stepmother of Rebecca and Molly, and step-grandmother of Zadie. Susan loved music and her cats, and always had a good sense of humor. She was an Instrumentation Technician in NB-1.

Ball, John R., 64, Marion Center, PA, 8/20/22 was the father of Joseph and Shannon. He served in the U.S. Navy as an Electrician's Mate. John loved everything on the water and at the beach from SCUBA diving to canoeing. He was also a lifelong learner with a passion for history and technology.

Biber, Conrad "Connie" H., 98, Needham, MA, 10/23/22 was the husband of Marianne, father of five, and grandfather of five. He served in the Swiss military (Artillery Division, with cannons and horses) until the end of World War II. He held numerous patents at Polaroid, the most distinguished one being the sonar autofocus technique used for Polaroid's instant cameras. He loved cars, designed and built his house, and was an avid skier and gardener. He was a member of the PRA.

Bisson, Alfred W., 76, Weymouth, MA, 11/14/22 was the husband of Lois and brother-in-law of Kathryn. He served in the U.S. Army. He was a Mold Operator. Al enjoyed golf, woodworking and watercolor painting.

Brustman, Frederick, "Fred", 85, Newton, MA, 9/9/22 was the husband of the late June, brother of Richard and was the companion of Joan. He was a Patent Attorney. Fred had many hobbies including jewelry making, silver smithing, collecting objects d'art that pleased him, and was most fond of sailing. Liked by all, he was a mensch. He was a member of the PRA.

Clark, Gilmore N., "GiL", 88, Bedford, NH, 11/23/22 was the husband of Phyllis, father of Bruce and Brenda, and grandfather of three. He worked in the Finance Department. Gil enjoyed the ocean and taking his family and friends out for boat rides, fishing and traveling the world.

Costa, Russell E., 77, New Bedford, MA, 9/21/22 was the husband of late Patricia, father of Keith, Mellisa, Meredith and Jason, grandfather of six, and great - grandfather of four. He loved to hunt, fish, cook and wear his cowboy hats and boots for all occasions. He was a whiz at crosswords and word jumbles, had a green thumb, and was a super athlete. His German Shepherds, Nora and Winston, were by his side till the very end.

Coutts, David W., "Dave", 79, Plymouth, MA, 10/14/22 was the husband of Judy, father of Douglas, Gregory, Jenella and Steven, and grandfather of five. He worked in Process Engineering (NB), primarily focused in the B&W areas, and in the "Peel-Apart" world in Photographic Release and Quality (W2). Dave was devoted to volunteer work and was a soccer coach, and a scoutmaster. He loved birdwatching, all things Scottish, mountain climbing and golfing.

DeArruda, Robert J., 84, Dighton, MA, 9/15/22 was the former husband of Patricia and companion of Jeannette, father of James, and grandfather of three. He was a Chemical Technician (NB). Robert was an avid bowler and golfer, travelling with teams to compete in and out of state and internationally. He was a member of the PRA.

DellOrfano, Joseph M., 74, Revere, MA, 1/19/22 was the father of Joseph, Stacy and Elaine, grandfather of three, and former husband of Elaine. Joe, always an athlete, played sandlot baseball and softball for Polaroid.

DeMonte, Sr., Michael P., Lynn, MA, 9/24/22 was the father of Paula, Pam, and Michael, and grandfather of seven. Michael served in the U. S. Army. "Big Mike" treasured his time spent with "the boys" down at the coffee shop, and spending his summer days at Revere Beach, where friends and strangers alike gravitated towards him.

DiFlumeri, Alberino "Sonny" N., 90, Saugus, MA, 11/3/22 was the husband of Josephine "Dolly," father of Dina, Albert and Lyn, and grandfather of four. He served in the U.S. Coast Guard on the U.S.S. Nantucket. He was a Technician. Sonny was a member of the Danvers Fish and Game Club. He was the ultimate handyman who could build, fix or give advice (solicited or unsolicited) for any household project.

Dundorf, Michael, 81, Methuen, MA 11/14/22 was the husband of Jeanne and the late Caryl, father of Christy and Joel, and grandfather of three. He was a Chemical Engineer. He had a passion for discovering and creating new recipes, was a dedicated fan of the Boston Celtics, an avid golfer and a solver of puzzles.

Evans, Dessie C., 75, Muscle Shoals, AL, 10/2/22 was the wife of Alfred, mother of V Michelle, Kalisha, Anthony and Eric, and grandmother of four. She worked in Optics, Memorial Drive, Cambridge and Camera Division, (Norwood). She was a member of the PRA.

In Memoriam Continued

Fleishman, Marcia G., 86, Highland Beach, FL, 12/12/22 was the wife of Harvey, mother of Risa and Susan, and grandmother of five. She was a Sales Representative. Marcia had a passion for the arts and travel, and an appreciation for foreign cultures and cuisines, and was an avid bridge player.

Gavin, William D., 84, Hingham, MA, 10/20/22 was the husband of the late Anna, father of Billy and Suzanne, and grandfather four. Bill was an Engineer (Camera Division, Norwood). He was a talented blacksmith, loved nature, enjoyed gardening, and helped curate the annual Flower Show at Linden Ponds. He was a member of the PRA.

Gostanian, Frances H., 91, Venice, FL, 9/24/22 was the wife of the late Johan, mother of Denise and Michael, grandmother of four, and great-grandmother of one. She worked on the first Land Camera. Frances loved dancing, trips to the casino, and spending time with her family. She was a great listener without judgement.

Hart, Rose F., 79, Cambridge, MA, 10/23/22 was the mother of Daniel and grandmother of two. She was a lover of great music, an expert Goodwill shopper and loved a good meal, lively conversation and a good book.

Hunt, Judith B. "Judy", 79, South Yarmouth, MA 10/16/22 was the wife of Joe, sister of Paul, Susan, Mary, Stephen, Bob, Alfred, David and Peter, life friends of Ann-Marie and Roy, and aunt to many. Judy was a Senior Buyer in Purchasing and Materials. Judy enjoying travelling, entertaining, dining out, attending plays, concerts, theater, reading, golf and skiing. She loved the Red Sox, Patriots, swimming, and gardening.

Jones, Florence B., 80, Stoughton, MA, 11/5/22 was the mother of Rhonda, stepmother of Artiliya, and grandmother of three. She worked in Human Resources and received many accolades. One in particular was that she was nominated and recognized by the Young Men's Christian Academy at a banquet in her honor. Her success led her to the Naval Reserve Intelligence Unit. She combined her love of travel, sightseeing, and the military through this opportunity. She was a member of the PRA and served on the Board of Directors.

Kishkis, Adrienne M., 75, Plymouth, MA, 12/3/22 was the wife of the late Wally, mother of Lynda, aunt of three, and great-aunt of three. She was a Customer Service Manager in Camera Products Services (Cambridge). Adrienne was a sophisticated woman who loved to decorate her home, spoil her many animals, and one of her favorite things to do was to engage and debate with anyone in political discourse.

Kennedy, William P. "Bill", Lexington, MA, 12/11/22 was the husband of Janice, father of Kathleen, Bill, and Michael, and grandfather of 10. He served in the Army Corps of Engineers (Germany), the Army Reserves and Massachusetts National Guard. Bill was an Engineer and was in the IFE program. He was a great listener and cherished the memories of trips with lifelong friends. Golfing was his passion. He was a member of the PRA.

Krom, Edward A., 87, Brookline, NH, 10/6/22 was the husband of Alice, father of Allison and Andrea, grandfather of six, and great-grandfather of three. Edward served in the U.S. Army. His hobbies included flying, boating, model airplanes, and cars. He was an Executive..

Langlais II, Eugene L., 77, Amherst, NH, 10/2/22 was the husband of Marie and father of Eugene III and Paul. He held leadership positions at Polaroid Graphics Imaging. Eugene was an avid gardener, and while living in San Diego he had a collection of over 1,000 cacti. He was also a collector of tropical fish, at one time having 40 fish tanks.

LaPan, John F., 88, Morristown, VT, 11/24/22 was the son of the late James and Mildred and brother to the late Mary. John asked that after his Funeral Mass that his family hold a reception with food and drink "on him," to be held in the atrium at Stoweflake Resort. John worked in Production Engineering in 4x5 and SX-70. John was a devout Catholic during his life and held true to the church's principles and teachings.

Lavalle, Sr., Robert A., "Bob", 89, Watertown, MA, 11/24/22 was the husband of Joan, father of Lawrence, Susan, Daniel, Denise, Mark, John, and the late Robert, Jr., grandfather of 10, great-grandfather of fourteen, and great-great-grandfather of two. He served in the U.S. Air Force. He was a Senior Technician.

Lawson, Commie (Tom), 95, North Port, FL, 9/28/22 was the husband of Marjorie, father of Nan, stepfather of Colleen and Tina, grandfather and great grandfather of several. He served in the U.S. Navy, (WWII). Commie loved the sea and traveling. His last request was a Seagram's 7 and coke, and hopefully he is enjoying one now.

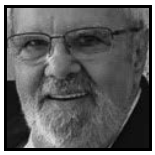
LeBlanc, Doris M., 91, Waltham, MA 9/9/22 was the wife of the late Eugene, mother of Walter, Ivan, Francis, Pauline and Joanne and the late John, grandmother of twelve, great-grandmother of fourteen., and great-great-grandmother of eleven. She worked in Administration. She enjoyed crocheting, sewing, baking and taking care of her beloved dog "Benjie."

Limerick, George R. Jr., 82, Lexington, MA., 9/2/22 was the husband of Donna, father of Shawn, Jeffrey, and Ryan, and grandfather of five. He served in the U.S. Air National Guard of Massachusetts and the U.S. Air Force. He was an Electrician. George loved spending time in Jackson, NH, and the White Mountains, enjoying time in the natural beauty of each season by hiking, skiing, golfing, card games, cocktails, and dinners on the porch or at one of his favorite spots. He loved Irish music, especially on his birthday (St. Patrick's Day), when he would revel and

connect with his Irish roots.

Luca, Joseph A., 84, Medford, MA, 2/27/22 was the husband of Theresa, father of Joseph, Theresa and Steven, and grandfather of five. He would commute every summer to Waltham from Lunenburg where he enjoyed many summer days. Joseph was a beautiful gift to his wife. He was a member of the PRA.

Mondello, Salvatore A., 85, Inverness, FL, 9/20/22 was the husband of Henrietta and the late Toni, father of Maria, Christina, Lisa, Linda and Salvatore, stepfather of Allison, Andrew, Eric, grandfather of twelve, step-grandfather of seven and great-grandfather of many. He served U.S. Air Force. Salvatore was a Chemical Technician. He had a love of history, literature, and learning, trivia and dancing He had hoped to finish writing the book he'd been working on for many years.



Moore Elizabeth "Betty", 97, Underhill Center, VT, 9/12/22 was the wife of Edwin, mother of Tom and John, grandmother of three, and great-grandmother of seven. She was a Crystallographer. Betty wrote five autobiographies about school, work and family, which are published in the Harvard Library. She loved music, dancing, writing, European travel, world history and geology. She also compiled years of written history by multiple authors into one large document, "History of Underhill Vermont: Past, Present, and Future."

Moriarty, Cornelius F. IV "Neil", 79, Canton, MA, 10/11/22 was the husband of the late Laureen, father of Kimberly, Connie, Richard, Deborah, and Michael, grandfather of sixteen, and great-grandfather of six. He was an avid sports fan. You could find him watching his beloved Boston College games on Saturday and pro sports on Sunday.

Murphy, Jr., Daniel I., 83, Annisquam, MA, 10/7/22 was the husband of Emily, father of Kathleen, Jacqueline, and Christopher, and grandfather of seven. He served in the U.S. Navy as a Lieutenant. Dan was an avid fisherman who would happily go any time he was offered a fishing excursion with his lifelong fishing buddies.

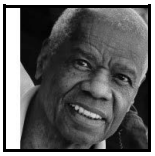
Percuoco, Anne "Nancy", 83, Methuen, MA, 9/7/22 was the wife of the late Anthony and mother of Lynn and William. She worked in Purchasing. Nancy enjoyed trips to Aruba and Foxwoods and going on many cruises.

Perkins Jr., Joseph S., "Joe", 92, Danvers, MA, 9/8/22 was the husband of the late Mary-Jane and the late Helen, and was the life partner of Lois, brother of Ann, and father of James, Jeffrey, Betsy, Steven and Brian, grandfather of thirteen, and great grandfather of eight. He served in two tours in the U.S. Army (Korean War). Joe was an Industrial Engineer and retired as a Corporate Retirement Manager. He enjoyed camping, skiing, hiking, biking or just taking a walk on the beach.

Phillipo, Gary F., 77, East Falmouth, MA, 9/6/22 was the husband of Hope, father of Alan, Michael, Kimberly and Gary, stepfather of Claudia Jonathan and Joseph, grandfather of fourteen, and great-grandfather of three. He was a Technician in the Testing and Evaluation department (New Bedford film plant). Gary was a ballroom dancer and an avid gardener where his home was kept filled with vases of flowers and bowls of vegetables from his garden.

Richard, Emma, 102, Framingham, MA, 10/10/22 was the wife of Neri, mother of Romeo, Val, Armand, Norma and Maria, grandmother of ten, great-grandmother of fourteen, and great-great-grandmother of nine. Emma worked as an 8x10 Negative Machine Operator. She loved spending time with her family, and enjoyed knitting in her free time.

Roane, David A., 79, Andover, MA, 12/2/22 was the husband of Alease and first wife Alexine, father of Carter, David, and Jamie, stepdaughters, Shawn and Danielle, and grandfather of seven. He carved a name for himself in the computer software systems industry. He enjoyed hot air balloons, planes, travel, gourmet cooking, adventures, and would never turn down an opportunity for a nice sail.



Rolfs, Jr., Walter A. "Bud", 70, Nashua, NH, 9/10/22, was the husband of Nancymarie, father of Amy and Eric, and grandfather of seven. He was a Captain in the U.S. Army. Bud was Vice President in the Instant Film Division. He enjoyed fishing, writing beautiful poetry, reading, educating others on the Bible and he loved watching football.

Salie, Jr., William E. "Bill", 80, Boxford, MA, 11/11/22 was the husband of Joan, father of William III. He served in the U.S. Army, (Vietnam). Bill was an Accountant. He loved to help people learn and volunteered regularly as an instructor or to help someone new get the basics right.

In Memoriam Continued

Scarpone, Michael R., 72, Norwood, MA, 10/8/22 was the husband of Kathy, father of Michaela, Tracey, and Bryan, and grandfather of two. He was a Red Sox season ticket holder (30 rows behind home plate) for 20 years, and had his very own seat at Fenway, with his wife and daughters, to enjoy both the 2004 and 2007 World Series. He loved the Three Stooges, and considered himself a foodie ("mangia, mangia!").

Selman, Walter B., 80, Rome, GA, 12/14/22 was the husband of Susanne, father of Suzanne. He was an avid tennis player. He and his wife enjoyed foreign and domestic travel for many years.

Scholz, Jr., Frederick A., 94, Bridgeport, CT, 12/7/22 was the husband of the late Catherine, father of Frederick III, Donna, and Maria, and grandfather of one. He served in the U.S. Navy, WWII (Pacific Theater). He was instrumental in developing the first plastic Polaroid Land Camera with Dr. Edwin Land.

Schwartz, Karl Otto, 81, Medfield, MA, 8/30/22 was the husband of Linda. Karl served in the U.S. Army. He worked in the Distribution Division (Needham). He was a member of the PRA.

Shute, Jr., Francis J., "Frank", 77, The Villages, FL, 9/5/22 was the husband of Cedalia, and the late Maryanne, father of Renee and Michael, and grandfather of five. Frank was an avid Boston sports fan, especially when it involved the New England Patriots!

Sigsbury, William R., 85, Reading, MA, 5/14/22 was the husband of Madeline, father of William, Lorraine, Duane and the late David, grandfather of six, and great-grandfather of three. He was a Machinist Mechanic.

Simon, Myron S. "Myke", 95, Newton, MA, 5/23/22 was the husband of the late Rose, father of Laurel, Amy, Ethan, and grandfather of six. In 1949 he was the first chemist to synthesize molecules in the research program aimed at creating instant color film, becoming one of the key inventors of the chemistry in the Polaroid Instant Color Photography system, including the dye-developers used in the first Polacolor peel-apart color photo systems and the alkali-stable naphthol phthalein dyes uses in the SX-70 camera system. He enjoyed hiking, camping, backpacking, skiing, boating, and bicycling.

Smith III, Raymond. "Ray", 78, Randolph, MA, 10/16/22 was the husband of Ernestine and father of three. He worked in HR and SAP. He leaves behind a legacy of love, laughter, strength, and commitment to all that knew him. He was a member of the PRA.

Stanavich, Margaret A., 99, Stoneham, MA, 9/28/22 was the wife of the late Anthony, and LeRoy, mother of Richard, Robert and Carol, and grandmother of sixteen. She was an Office Worker. She enjoyed traveling on extended vacations. She was a member of the PRA.

Storella, Thomas A., 95, Medford, MA, 8/24/22 was the husband of Mary, father of Thomas, Jr., and William, and grandfather of six. He served in the U.S. Navy WWII, (USS Honolulu and the USS South Dakota). He was a Carpenter. He enjoyed travelling the warm desert air of Arizona and Nevada, cooking and the opportunity to try his luck every now and again.

Tuffile, Dr. Fred M., 81, Lakeville, MA, 10/20/22 was the husband of Conni, father of Alexander, Charles and Anthony, and grandfather of ten. He was a Chief Executive Officer of Polaroid Graphics Imaging. Fred enjoyed many years of boating, sailing, waterskiing, kayaking, canoeing, windsurfing and traveling the whole world.

Turci, George P., 93, Falmouth, ME, 9/22/22 was the husband of the late Carol, father of Paul and Andrea, grandfather of four, and great-grandfather of four. He served in the U.S. Navy as a Junior Officer. George worked in Business Management and Consulting. He enjoyed playing bridge, music, tennis, golf, skiing and travel.

Weeks, Richard F., 90, Des Moines, IA, 7/11/22 was the husband of Betty, father of Dan, Geoff and Liz. He was most known for heading the team at Polaroid that designed the optics for the iconic Polaroid SX-70, the world's first folding single-lens reflex camera. Weeks and his colleague, William T. Plummer, worked on the SX-70 camera earning the Richardson Medal from Optica for distinguished contribution to applied optics in 1980. He was a skilled inventor, photographer, woodworker, boat builder and house restorer.

In Memoriam Continued

White, Malcolm C., Jr., 77, Rockport, ME, 9/23/22 was the husband of Nancy, father of Kate and the late Richard, and grandfather of Kaia. He served as a Commander in the U.S. Navy both Active and Reserves (18years). He loved being outdoors, and enjoyed spending time at the summer home that he shared with his family in Down East Maine, often island hopping on their boat and eating lobster on the beach with friends.

Young, David P., 81, Bridgewater, MA, 10/21/22 was the husband of Kathy, father of Mark, Chris, and Heather, and grandfather of three. He served in the Massachusetts National Guard. Throughout his entire journey, he cracked jokes with his family, friends and nursing home staff. His facial expressions only added to the emotion of the moment. He was a member of the PRA.

Dr. Land's Christmas Letter 1945

"A basic long-term aim of Polaroid is to provide means for all its employees to have a full and complete working life.

"We believe that the realization of this objective will be a consequence of the two major policies the Company has established. Our first policy is to make products which are new and useful to the public. In this way we can have the satisfaction of helping to make an important creative contribution to our times. Our second policy is to give everyone working at Polaroid personal opportunity within the Company for full exercise his talents: opportunity to express his opinions, opportunity for sharing in the progress of the Company as far as his capacities permit, and opportunity to earn enough money so that the need for earning more will not be the most important thing on his mind.

"These policies can make Polaroid a great company-not great of the individual ideals of its employees. Everyone, at every level of the organization, has a responsibility for making these policies work.

"Today, we must make the deadliest weapons we can contrive, to speed the winning of a peace in which individual ideals can thrive again.

"Until the war is won, Polaroid has a single purpose— to provide a clear channel through which every employee can pour his energies and talents into the fight."

"The Purpose of the Company" *Polaroid Handbook,* 1945

Save the Date: May 22

PRA Annual Spring Meeting & Luncheon

The Warren Conference Center, 529 Chestnut St., Ashland, MA

Monday, May 22, 2023

We hope you'll join us!

Overlooking the Ashland Reservoir and 100 acres of woodland,

The Warren Center is midway between Framingham and Hopkinton.

It is wheelchair friendly with golf cart transportation to the door.

Visit https://www.warrencenter.com to view meeting rooms and routes to The Warren Center.

Special thanks to Direct Federal Credit Union for underwriting the event for PRA members!

Polaroid in Italy

When Bob and MaryLou Ruckstuhl's daughter Sandy sent this photo from Venice, Italy, she added,

"The Polaroid display was in this super high-end fashion department store, surrounded by all the most expensive brands, between FENDI purses and Prada sunglasses and across from a display of small Jeff Koons sculptures that were going for $4,000+ a pop.

"The department store is in a newly refurbished palace right next to the Rialto bridge."

Thank you, Ruckstuhl family!

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Send your stories to Bob Ruckstuhl's address below or to newsletterpra@gmail.com

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