

Issue 18: April 2017
Carleton College 1966
Post 50th Reunion
Newsletter

RATIONALE FOR FURTHER READING.

1. Results of the recent Carleton sponsored get together at Asilomar, California.
2. Carleton College and its commitment to the Climate Action Plan: Redoing campus heating.
3. State of the world's climate. Are January 2017 average global land and sea temperatures decline? A hope and some disappointment
4. 2017 Carleton women's softball team and Clay Russell.
5. Remember Bailey Ulbricht & Paper Airplanes?



A sign of the times: January 21, 2017, Seattle, Washington, corner of Jackson and 3rd Ave.



A great time:
the merging of
the 50th with
the 150th, June
18, 2016.

Post-Reunion Update

This update and images are provided by Peggy Day Watterson, who with Jon, and eight others from the Class of 1966 attended Carleton College sponsored event at Asilomar, California. Here is Peggy's report:

"We all might be feeling various levels of despondency, but we all have to care for the world"

--Dev Gupta, Asilomar, February 2017

For three and a half days, 60+ alumni and spouses, Carleton parents and even grandparents came together at Asilomar, near Monterey, CA for "Classroom by the Sea" to explore some really big questions. We came from Arizona, California (the largest group, of course), Illinois, Indiana, Massachusetts, Minnesota, Montana, Oregon, Texas, Utah, and Virginia. Our Class of '66 was the largest group with Eric and Mimi Carlson, Mimi Davison, Peggy and Jon Watterson, Betsy Hall Littell, Tom and Sharon Merritt, Mary Watson, and the "newly weds" Vicki Rupp and George Jelatis. On the last night there, our formidable "team 66" emerged victorious in a



Trivial Pursuit challenge featuring, among others, questions about Carleton history!

The weekend, guided by Carleton faculty members Dev Gupta, Al Montero and David Tompkins and kept from chaos by the able organization of Aliza Ross and Sara Forster ('93), tackled global issues of public health, global inequality, climate change, refugee crises, and social protests and social movements.

Before arriving at Asilomar, each participant was assigned to one of 6 topical groups with the opportunity to prepare in advance by reading several articles selected by the faculty members. Then, after a late Thursday afternoon arrival and brief reception and dinner, in true Carleton style we launched small



group discussions, preparing for the Friday morning presentations by each of the six groups. The preparations and ‘presentations’, seemed designed to challenge us, bring forth more questions than answers and provide opportunities to listen to the experiences and ideas of each other... and to create a sense of community. While we found the topics intense, the discussions serious, the ever-present Carleton “sense of humor” continued to keep us from drifting into pits of despair!

After stumbling through the presentations, realizing that “answers” to the questions were taking more of the form of rewriting the questions...realizing our woeful lack of understanding that re-

vealed more and more questions, Dave, Al and Dev each spent about 30 minutes increasing our knowledge base...and challenging us with still further questions allowing us to “discuss and understand the challenges facing Americans and others”(Dave) and search for meaningful ways to find ‘our place in the world” and somehow “make the world a better place” (Dev)

While the topics were intense and sobering, the seaside environment...and respite from the cold for some and rain for others...provided beauty and uplifting experiences.

Many of us took the long afternoon pauses in planned activities for visits to the incredible Monterey Bay Aquarium or Point Lobos to search for whales and sea lions, to drive the scenic 17 Mile Drive, or to bike...and with the beach at our front door, brisk walks of incredible beauty easily buoyed spirits. A few folks found their way to nearby Pebble Beach Golf course to bask in the luxurious lounge, while others took the time to read or draw embraced by the wild beauty of the Asilomar dunes.

Thanks to David, Al and Dev, we were ultimately treated to further glimpses of Carleton today

- its global initiative to ‘connect Carleton to



the rest of the world’,

- 75% of current Carleton students do some off-campus study abroad during their years at Carleton
- “by and large...the student body ...now has no memory of 9/11” and have been socialized in a very different world” but they “are dedicated to changing the world” and “ understand that the weight of history is on their shoulders”.
- they are motivated, smart, have innate goodness and desire to “make the world a better place”.

And one grandparent of a current Carleton freshman reports that when she asked her granddaughter the question “are you happy at Carleton?”, the reply was “I’d have to work very hard to be unhappy”.

We did indeed grapple with the big issues and tried to find our place in making the world better. There weren't many “answers’ but perhaps the beginning to finding solutions is to better articulate questions, to challenge ourselves to take some actions and to listen deeply to others. Betsy Hall Littell summed up the weekend:



“...how to proceed next...it is so helpful and so useful to come together with a group of people...within my own generation, who I can then say I can go forward with; I can re-contact, I can make a support group here which can help me to do what I want to do. That is really very useful for me...I don't feel so much like I am sticking my neck out there all by myself.”

Update on Campus Sustainability Efforts

Martha Larson, Manager of Campus Energy and Sustainability, provided the following information. This is a follow-up to a two piece article that was printed in Issue 7, August 2015, of our reunion newsletter. One part of the article was on a discussion of sustainability at the family level and the second part was on the institutional level, specifically what Carleton was doing. This is a follow-up.

Background: At the turn of the twentieth century, Carleton transitioned from coal furnaces and wood-burning fireplaces in each building to a centrally distributed steam heating system. This system was constructed at the beginning of President Cowling’s administration, an era that launched considerable expansion of Carleton’s campus and elevation of its stature as a renowned liberal arts institution. Throughout the past 100 years, including multiple periods of expansion, this system has served the campus well. Around 1950, the central heating plant was converted from coal to natural gas.

Beginning in the 1960’s, hot water began to displace steam as the standard heat transfer medium used in buildings. Hot water systems provide much better control, more even heating, greater energy efficiency, and are safer and easier to maintain. Over the past five decades, Carleton has transitioned nearly all of its buildings from steam to hot water heat while still maintaining a central steam plant and steam distribution infrastructure to those buildings. Evans Hall, Skinner Chapel, and Scoville Hall are recent examples of Carleton’s transition from steam to hot water heating in buildings. Only a few buildings remain yet to be converted (Old Music, Goodsell Observatory, Laird Stadium and Faculty Club).

Under President Pozkanser’s administration, the campus undertook and the Board approved a Climate Action Plan, Strategic Plan and Facilities Master Plan which provided vision and insight on how the built environment at Carleton is expected to evolve over the next 20–30 years. The 2016 Utility Master Plan

assessed the condition of Carleton's existing central utility systems, quantifying the scope and cost to repair or replace aging piping and major components, some of which are 50 – 100 years old. It then examined the best way to support the goals of the campus Facilities Master Plan and the Climate Action Plan, and to provide flexibility for future generations. The planning process closely examined current mechanical technology and engineering practices which are evolving to operate heating systems more efficiently using a lower supply water temperature (typically 120 degrees vs. the traditional 180 degrees). This seemingly minor change opens up opportunities to utilize significantly more efficient technologies such as condensing boilers, heat pumps, geothermal systems and solar thermal systems.

Evaluation: The Utility Master Plan concept phase began in fall 2014 following publication of the campus Facilities Master Plan. Facilities staff and engineering consultants assessed the scope of current and future campus plans and performed a cost benefit analysis of maintaining the existing central steam plant verses transitioning to a central hot water system. The concept phase focused on taking advantage of existing assets such as Carleton's recently upgraded electrical system, existing chillers and cooling towers, and underground tunnel system. It also capitalized on synergies with planned construction activities, most importantly the renovation and expansion of the science facilities.

The concept phase also explored technologies that would help reduce Carleton's carbon emissions. These include heat pumps which transfer heat between heating and cooling systems to make use of simultaneous heating and cooling loads, geothermal wells which supplement heating and cooling requirements by using the earth as a heat source or sink, and combined heat and power engines which simultaneously produce electricity and heat. These systems complement each other in such a way that it makes more sense to do them together than to implement any one system on its own.

The Utility Master Plan Concept Phase concluded that the transition to a hot water system coupled with geothermal heat pump and combined heat and power (CHP) technology could offer:

- a full renewal of Carleton's aging heating plant and distribution infrastructure,
- a significant reduction in Carleton's Scope 1 and 2 carbon emissions, and
- a significant reduction in Carleton's annual plant operating costs (plant operation + utilities) that could repay the entire capital investment in less than twenty years.

The concept phase also concluded that a satellite plant housing proposed new utility equipment could be built as part of the new science addition.

In February 2016, the Buildings and Grounds Committee authorized Facilities Staff to proceed with a more detailed phase of design and contractor pricing. This authorization also included approval to proceed with geothermal test wells to confirm the viability of possible well field locations on Carleton's campus. This six-month effort resulted in a design package, market-tested contractor pricing and a preliminary phasing plan beginning in summer 2017. The Utility Master Plan team evaluated the capital cost, operating cost, utility cost, and carbon emissions for the base case of maintaining the existing steam system verses a transition to a hot water central heating system and concluded that:

- Base Case: Maintain Existing Steam System – Continuing to replace and maintain existing central steam plant equipment and distribution piping has an estimated capital cost of \$21 million spread out over the next twenty years. This option generates no operating or carbon savings relative to current conditions.
- Transition to a Hot Water System – Transitioning from central steam to a central hot water system tied to heat pump, geothermal well field and combined heat and power (CHP) technologies

has an estimated capital cost of \$38 million over the next five years. This option would reduce plant utility and operating costs by an estimated 36% and Scope 1 and 2 carbon emissions by an estimated 38% relative to current conditions. The annual savings would pay back the Capital investment in approximately seventeen years, for a positive 30-year net present value of \$9.8M versus the Base Case.

Recommendation: Facilities Staff recommended transitioning to a hot water system, which includes the following components:

1. Complete the transition from steam to hot water heating by replacing the central steam plant equipment and distribution piping with hot water infrastructure.
2. Design the central plant to operate at a 120 degree hot water supply temperature, working over time to transition all campus buildings to 120 degree systems.
3. Retrofit some of Carleton's existing buildings to utilize 120° heating supply water as part of this project; establish this as our standard for all new construction or major renovations.
4. Install decentralized gas domestic hot water heaters to replace the existing steam heat exchangers.
5. Add a heat pump coupled with a geothermal well field to take advantage of simultaneous heating and cooling loads across campus; locate this equipment in a utility sub-basement constructed as part of the New Science Addition.
6. Add a combined heat and power (CHP) reciprocating engine in the Facilities Building to benefit from the efficiencies of generating electricity and heat simultaneously and to supply the electricity demand of the heat pump system.
7. Decouple the most distant campus loads (Laird Stadium, Faculty Club and Rec Center/ Goodhue) from the central heating system. These buildings would have their own localized boilers, much like the Weitz Center.

Next Steps

- October 2016: Board approved the plan to transition to a hot water heating system with geothermal and combined heat and power system and authorizing further design development.
- October 2016 – January 2017: Undertook the next phase of design and contractor pricing.
- January 2017: Carleton internal review and approval process confirmed that the project still meets the proposed scope, cost, and carbon emissions reduction targets.
- Feb 2017: Board authorized implementation of the recommended utility system beginning in summer 2017.
- Board approved Phase 1 which would be the new utility plant in the basement of the new science building, plus the geothermal system, plus the conversion of the "east side" buildings from steam to hot water distribution.
- In fall of 2018, Phase 2 will be brought for approval - this is the completion of the west side steam to hot water conversion.

2017 Carleton women's softball team and Clay Russell.

“The Carleton women's softball team was in Clermont, FL for a week in mid-March. That is about 35 miles south of where I live. So, on two consecutive days, I went to watch them play a game. There were about six sets of parents, most of whom wondered if their students would be able to find jobs



Carleton's 2017 women's softball team. By individual number and from left to right, first row: 12: Molly Steinberg, 7: Katie Eppard, 2: Emily Boxrud, 25: Ari Zuaro, 1: Mia Orans. Back row: 6: Sarah Ogle, 9: Anna Lauko, 15: Mo McConnell, 11: Natalie Maurice, Clay, 13: Sam Kile, 14: Corrie Lucchesi. Photograph by Charlotte Thomas (Moira McConnell's Mom)

after graduation. I told them that Carleton has a much better Placement Office now than when we were there.”

Update on Bailey Ulbricht

In issue #9 of the Reunion Newsletter, we first learned about Bailey. As an undergraduate, she had spent time at the Turkish-Syrian border. As a result of that experience, she began a tutoring program using Skype and the program is called Paper Airplanes Tutoring. Today, it has a web

site (www.paper-airplanes.org), 501(c) 3 status, 3 part time staff positions (two of whom are former refugees), and provides digital education to conflict-affected communities using a tutor - student model. 222 students from 18 countries, where the majority are from Syria and Turkey, are paired with a tutor.

State of the World's Climate

I hope everyone paused on January 1 to celebrate not only the New Years, but also the fact that 2016 was the warmest year on record since records have been kept (please see figure below for these data). I have always tried to be an optimist. I thought since the El Nino effects on global temperature were abating that the global (land and water) average temperature for January would be much cooler than we have seen for a long time. Further bad news: January was the third warmest since 1880. Even worse, February was the second warmest since 1880.

I do find it ironic that some of the folks who like fossil fuels the most, especially coal, seem to be set on denying that climate changes. Likely alluding them also are both gravity and plate tectonics.

