Effective communication a necessity in any organization

LORI DAOJSE Contributing Writer

This article was originally written for the Marketing and Communications Office and is published online at caltech.edu. Among the many descriptors assigned to Caltech scientists, "rock star" is not the most common. But when Konstantin Batygin (20, PhD ’12), an assistant professor of planetary science at Caltech, was recently included in Forbes’ "30 Under 30" list in the science category, the editors used just those words. Describing Batygin as "this next physics rock star," and indeed, in addition to having already published 21 papers as first author, the 28-year-old planetary scientist is a lead singer in a band The Seventh Season. The Forbes list, now in its third year, spotlights 30 game changers, movers, and makers, under 30 years old, in 20 different categories ranging from venture capital to music. Among the many hobby interests listed by Batygin is playing with his band or flying remote-controlled planes—a favorite pastime he picked up during graduate school. Batygin researches the evolution of planetary orbits, from their chaotic beginnings to the eventual end of their parent solar systems. By studying the dynamical structure of our own planetary system, Batygin and his team are developing a theoretical understanding of the origins and long-term evolution of other such systems throughout the galaxy. Batygin also studies the interiors of exoplanets. Many of the exoplanets that have been discovered reside in close proximity to their host stars and so are bathed in intense radiation. This can cause their atmospheres to become electrically conductive. Batygin studies how the interaction with an exoplanet's magnetic field and its electrically charged atmosphere can induce electrical currents that heat the planet's interior and perturb its atmospheric circulation patterns.

"I am deeply humbled by this recognition," says Batygin. "More than anything, this is a tribute to the outstanding mentorship I have received over the years from my advisers, particularly during my time here at Caltech as a graduate student." Batygin is not Caltech's first talented young researcher to be recognized on the "30 Under 30" list. Assistant Professor of Biology Mitchell Gutman has appeared on the list twice; two Caltech alumni and two graduate students have also made the list previously.

Professors Djorgovski, Brunschwig named fellows of the AAAS

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This is an excerpt of an article originally written for the Marketing and Communications Office. The full version is published online at caltech.edu. The AAAS performs an essential role of promoting and protecting science and its benefits for society. This has never been more important than it is now," says Djorgovski, director of the Center for Data-Driven Discovery at Caltech. He was elected by his scientific peers to the AAAS’s Section on Astronomy for his “leadership of the Virtual Observatory and the emerging field of astroinformatics, and considerable body of work on surveys and transient discovery.” Among the many common descriptors assigned to Caltech scientists, “rock star” is not the most common. But when Konstantin Batygin (20, PhD ’12), an assistant professor of planetary science at Caltech, was recently included in Forbes’ “30 Under 30” list in the science category, the editors used just those words. Describing Batygin as “this next physics rock star,” and indeed, in addition to having already published 21 papers as first author, the 28-year-old planetary scientist is a lead singer in a band The Seventh Season. The Forbes list, now in its third year, spotlights 30 game changers, movers, and makers, under 30 years old, in 20 different categories ranging from venture capital to music. Among the many hobby interests listed by Batygin is playing with his band or flying remote-controlled planes—a favorite pastime he picked up during graduate school. Batygin researches the evolution of planetary orbits, from their chaotic beginnings to the eventual end of their parent solar systems. By studying the dynamical structure of our own planetary system, Batygin and his team are developing a theoretical understanding of the origins and long-term evolution of other such systems throughout the galaxy. Batygin also studies the interiors of exoplanets. Many of the exoplanets that have been discovered reside in close proximity to their host stars and so are bathed in intense radiation. This can cause their atmospheres to become electrically conductive. Batygin studies how the interaction with an exoplanet’s magnetic field and its electrically charged atmosphere can induce electrical currents that heat the planet’s interior and perturb its atmospheric circulation patterns.

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The Caltech Y Column serves to inform students of upcoming events and extracurricular opportunities. The list is compiled by Neeru Shah from information given by the Caltech Y and the Student Activities Office.

Founded by students in 1916, the Y was organized to provide extracurricular activities planned and operated by students as an opportunity to learn leadership skills and discover themselves. The Y seeks to be a vibrant community, raising social, ethical, and cultural awareness through teamwork, community engagement, activism, and leadership. More information about the Caltech Y and its programs can be found at https://caltechy.org/programs_services/..

Upcoming Events:

1. Courage and Resistance Tour: Movie Screening & Discussion
   Tuesday, January 27 | Movie Screening: 6:00 PM | Discussion: 7:30 PM | Beckman Institute Auditorium

   14 Years Before Edward Snowden was even born a group of antiwar activists broke into an FBI office, stole all the documents, and turned them over to the press. The public learned of the FBI domestic spying operation conducted on thousands of unsuspecting Americans - including Martin Luther King Jr. - under the direction of R.M. Alvarez, '67.

   The Y: The Activist Burglars were never found...until now.

   The Caltech Y Social Activism Speaker Series starts with a screening of the award-winning documentary, followed by panel discussions featuring:


   Informal conversations will be held in the Commons.

   Evening programs are free and open to all. RSVP is space allowed. Please contact the Moore Hufstedler Fund for more information or to RSVP to the public versus the scientific community?

   Measles outbreak spreads in California and eastern states

   68 cases confirmed in California, 9 more reported in bordering states

   Protests against police in Egypt continue

   16 dead in protest that broke out after an activist was killed in Cairo march

   Student competitions

   The final round of the Perpall Speaking Competition was held on January 28th. Out of 14 Students, the winner was chosen. The first place prize of $1000. After the students presented their respective SURF projects, the winner was determined. Benjamin Wang, senior, was awarded first place; Adam Jermyn, senior, and Sean McKenna, sophomore, tied for second place. Wang worked on his project, "Exploring the enzymes that catalyze the reduction of phenazine-1-carboxylic acid (PCA) in Pseudomonas aeruginosa," in the lab of Dianne Newman, professor of biology and geology and under the mentorship of graduate student Nate Glasser. Wang described the ideas of his project: "Pseudomonas aeruginosa is a Gram-negative opportunist pathogen that causes infection in a variety of contexts including burn wounds and the lungs of persons with cystic fibrosis. These bacteria synthesize redox-active compounds called phenazines that not only serve as virulence factors but also directly enable the survival of the producing organism. Phenazines, such as phenazine-1-carboxylic acid (PCA), are often found in a reduced state when carrying out their functions. This project has identified multiple enzymes, called phenazine-1-carboxylic dehydrogenase (LDHL) that can catalyze the reduction of PCA, a key to the success of the bacteria. The goal of my project was to create a program which uses Monte Carlo simulations to estimate wait times in polling places on Election Day, then use the simulated data to propose an efficient allocation of resources such as voting booths."

   The Perpall Speaking Competition and the SURF program highlight the necessity of excellent speaking skills even in research-heavy STEM fields. Jermyn agrees that speaking is "absolutely crucial. There are two reasons for this. The first is somewhat mundane: if you want to get funding for your ideas, you need to convince people that they are worth funding. The second, however, is that it is part of the job of a scientist to communicate their work: science not communicated is not done. The level at which it is communicated (i.e., to the public versus to the scientific community) may vary based on context, but the fact that it is communicated is key."

   The 1st Annual TOY Haulers for Hunger Toy Drive will be held in the Caltech Y Commons from 4:00 to 6:00 PM on Friday, February 16th (Presidents' Day).

   More information about the program and to apply please visit our website at: https://caltechy.org/programs_services/tutoring/Resources/index.php.

   "If you have any questions, email Dorothy Pan at dp@caltech.edu or Jeremy Sandler at jsandler@caltech.edu.

   4. Rise Tutoring Program
   Monday - Thursday | 4:00 - 6:00 PM | Winnett, 2nd Floor

   The Rise Program is an after-school math and science-focused tutoring program that serves public school students between grades 8 and 12 who are struggling in math and science (receiving a C- or below in either subject). The tutoring takes place on the Caltech campus Monday - Thursday from 4pm-6pm. Tutors are matched with 1-2 students they will work with for the same student for the whole year. Tutors commit to 1-2 days per week for at least 2 terms out of 4. The weekday schedule can be accommodated throughout the year. This is a great way to get volunteer work without having to leave campus. For more information about the program and to apply please visit our website at: https://caltechy.org/programs_services/tutoring/Resources/index.php.

   "When: February 14th-16th
   Where: Anza Borrego Desert State Park
   Cost: $70, includes meals and accommodations
   Sign up starting Wed., January 21st at 6:00 PM | Winnett, 2nd Floor

   Anza Borrego Desert State Park is a unique park in Southern California, with a variety of shrubs, trees, and plants seen elsewhere, including bighorn sheep, roadrunners (It's a real bird, not just a cartoon character!), and desert jacksrabbits. The geological and cultural history of the park is also noteworthy, with famous fossil beds from the Pleistocene and Pliocene Epochs and 2000 year old rock paintings. February is the ideal time to visit the park, with daytime temperatures averaging 75-80 degrees and little chance of rain.

   Here are the details:
   - Where: Anza Borrego Desert State Park (About 125 miles Southeast of Pasadena)
   - When: February 14th-16th (Monday, February 16 is President's Day and a Caltech holiday)
   - Cost: $70, includes camping fees, warm-up reservations, most meals, and use of equipment from the Caltech Y
   - If you have any questions, email Dorothy Pan at dp@caltech.edu or Jeremy Sandler at jsandler@caltech.edu.

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I last wrote about the issues facing transgender people around the world following the tragic suicide of Leelah Alcorn, a trans teenager from Ohio. While the transgender community does face crushing discrimination from legal, health, and social viewpoints, there are many steps we can take for transgender equality, but only if we acknowledge the existing and emergent challenges our society faces.

Perhaps most obviously, discrimination hate crimes against transgender people need to be wholly illegal. We need to push for laws protecting the employment of transgender people, making it illegal to fire someone just because they identify as a transgender person. Additionally, it needs to be illegal to deny a transgender person housing on the basis of being transgender. "Transgender" is the last one. The CIA, like any other organization, needs to be required to have a solid moral compass and the accountability and transparency that the world and its stakeholders within international law and politics.

In summary, the key findings of the report were that the CIA's use of EITs was not an effective means of acquiring intelligence or gaining cooperation from prisoners, and justifications based on effectiveness were thus void.

The film tells the story of FBI surveillance and deception between Hoover's FBI, the CIA's interrogation program, and the early stages of their transitions. There is no practical use in calling sanitary pads and tampons "feminine products," other than to avoid explicitly stating their connection to menstruation. However, perhaps most important is creating more gender neutral spaces. A classic example is bathrooms. There are no reasons to have gendered bathrooms; perhaps there is concern that the size of a penis at a urinal might make someone uncomfortable, but it seems easy enough to erect a partial wall separating off the urinal area. Concerns about heightened public visibility and privacy are proven absurd when you consider that absolutely nothing is keeping a predator from hiding behind a bathroom stall for a chance to strike. Gender neutral bathrooms prevent binary bathrooms from being used as a way to misgender and shamed for using a bathroom that aligns with their identity, and gives a good option for non-binary, genderqueer, and transgender people. One cannot be the only woman who is tired of standing in a long line of women at the men’s bathroom when the men’s bathroom has no wait.
Societal changes necessary to prevent marginalization

Continued from page 3

and thought from any adult in our society, as we are so heavily socialized to view gender as inherent and immutable. To truly enact change, we need to raise a new generation with a more open view toward gender. Rather than forcing children to confirm to gender stereotypes before they’re even born, we need to let children explore what their gender means to them with less pressure and more acceptance. We need to let children know that while having a vagina means they are likely to identify as girls, they still might identify as a boy after all, or neither a boy nor a girl. Additionally, if children are transgender, we need to start supporting their identities. As Dr. Johanna Olsen stated (in a well-known Dateline interview) in response to questioning whether or not it’s “ridiculous” to let preteens decide if they want to start hormonal therapy, “Well, they’d make the decision to kill themselves at 12 and 13.” If you don’t have to make all these changes at once. Start with further educating yourself on transgender issues (Google will serve you well) and try to notice ways in which day-to-day life is easier if you are cisgender. Then, maybe ask someone what pronouns they prefer if their gender identity is ambiguous. Petition for gender neutral restrooms. Tell elected officials that you care about the equality of transgender people. Donate to organizations that serve the transgender community, and don’t give money to companies that discriminate against transgender people. The world is changed incrementally, and we all can make small changes—and perhaps later on, big changes—to how we move through the world to help others feel safer, more accepted, and, eventually, equal.

Gregory Harlow, a second-year graduate student in CCE, passed away last Thursday afternoon.

The California Tech would like to join President Rosenbaum in sending condolences to Harlow’s family and all those affected.

Also, please keep in mind the numerous resources available for all members of the Caltech community: students can call the Deans’ offices, Community Associates, RAs, RLCs, Health Advocates, UCCs, and the Center for Diversity. The Caltech Counseling Center is open during weekdays and will have extended drop-in hours with no appointment necessary. For more information call x8331 or go to the Counseling Center website.

Faculty, staff, and postdocs are encouraged to contact the Staff & Faculty Consultation Center at x8360.

Tommy Caldwell, Kevin Jorgeson free climb Dawn Wall

CASEY HANDMER
Contributing Writer

On Jan. 15 Tommy Caldwell, 36, and Kevin Jorgeson, 30, managed to complete their groundbreaking Dawn Wall project, begun by Caldwell in 2007 with Jorgeson joining in 2009. Both climbers routinely spent weeks to months each year encamped in tiny hammock-tents thousands of feet off the ground as they worked on mastering the project.

Like every other slab of stone in Yosemite Valley, El Capitan has been climbed by more than 100 distinct routes, most involving the use of “sled,” mechanical systems to help the climber. Purists within the sport prefer to climb “free,” that is, with hands and feet and ropes only to catch the climber in case of a fall, at which point they generally begin again from the bottom of that section.

Like every other big wall climb, the Dawn Wall is broken up into multiple sections (32 in this case) or “pitches” approximately as long as the 200-foot rope the climbers use to relay each other. What sets the Dawn Wall apart is the extreme technical difficulty of the climb. The central six (out of 32) pitches are the hardest—each individually as tough as the hardest walls you would find in any gym, and all thousands of feet from the ground. Over New Year’s, Jorgeson struggled for a week with pitch 15, tearing skin from his fingertips during a traverse rated 5.14d in difficulty, so hard that perhaps only a few dozen climbers in the world could ever repeat it.

When a crucial hand hold snapped in 2012, pitch 16 went from difficult to impossible, then nearly 3000-foot route up the slab stymied in the middle by eight feet of blank rock with nothing to stand on. Caldwell and Jorgeson realized the only solution would be to jump, the handholds on either side no bigger than a door frame and made of razor sharp granite.

While it is one of the hardest, if not the most difficult, climbs ever completed, the Dawn Wall is more of a beginning than an end. Previous generations of climbers celebrated the free climbing of El Capitan by the least challenging (and then the only possible) routes. Today, top climbers often spend years developing routes that are deliberately challenging, keeping with an emerging aesthetic that favors bold, audacious lines.

On the completion of this nearly decade-long project, Jorgeson said, “This is not an effort to ‘conquer.’ It’s about realizing a dream. I hope it inspires people to climb their own Dawn Wall.” Looking forward to a shower and walking on flat ground after 19 days, Caldwell remarked, “I would love for this project to open people’s eyes to what an amazing sport this is. I think the larger audience’s conception is that we’re thrill-seekers out there for an adrenaline rush. We really aren’t at all. It’s about spending our lives in these beautiful places and forming these incredible bonds.”
Men's team plays hearts out, Eslinger is “darn proud”

GOCALTECH.COM
Actual Sports Content Editor

THE CALIFORNIA TECH

One thing was clear as the Caltech men's basketball team fell to La Verne in double overtime: the Beavers are darn proud.

LA VERNE, Calif. (Jan. 24, 2015) – Sophomore Kate Lewis (San Antonio, Texas / Folsom, Calif. / St. Francis) chipped in eight points (3-of-6) and eight rebounds in just 22 minutes on the court, with Connor matching Lewis with three assists.

“We know that having only nine players, just eight which played tonight, means everyone has to contribute,” Marbut said. “It can make you feel vulnerable or it can be a tremendous strength, because everyone knows the team needs them in all matters. We chose to make it a strength today, and just missed getting the win.”

Having already played four overtime periods this season, it was no surprise that Caltech scored the first four points in the opening minute. La Verne tied things up less than two minutes later and went ahead on a pair of free throws at the 1:43 mark, but Eslinger tied it with a pair of free throws and did it again after a La Verne basket going into the final minute. Caltech's defense did its job at the other end but as Joel grabbed the rebound, he fell to the floor and was whistled for traveling, giving the hosts another chance. La Verne's final effort missed everything, however, to send the game to double overtime.

Eslinger kept up his late dominance with a three-point play to open the second overtime, but the lead would not last as La Verne's Brett Stephan nailed a three with a hand directly in his face to level the score at 55-55. Eslinger came right back, driving into the lane and drawing a foul to earn another trip to the line, where he calmly converted both free throws to regain the lead with just 1:23 remaining.

Once again, the defense took care of business on the other end, but as Hogue turned loose after a rebound, La Verne stripped the ball and called a timeout.

Stephan hit a jumper following the inbounds with 55 seconds left to play and, following a block on the defensive end, the Leopards scored the go-ahead basket on a tip-in with just three seconds remaining. Hogue’s last-gasp three-pointer looked true but clanked off the back iron to end the game, 57-59 in La Verne’s favor.

Al-Rayes and Emenzie led the Beavers with 14 points apiece as Al-Rayes completed the double-double with 10 rebounds. Hogue brought down a game-high 14 rebounds and sophomore Ricky Galliani (Menlo Park, Calif. / Sacred Heart Prep) chipped in nine points. "Hogue and Ke led everyone in playing their hearts out, grinding and gutting out plays all night,” Eslinger said. “Ke got that look in his eyes that he wasn’t going to be stopped and was spectacular. Nason played with heart and Lawrence Lee had some great minutes. I’m just darn proud of these guys,”

Lewis gets sixth double-double of season, still hungry for victory

GOCALTECH.COM
Actual Sports Content Editor

LA VERNE, Calif. (Jan. 24, 2015) – Sophomore Kate Lewis (San Antonio, Texas / Ronald Reagon) recorded her SCIAC-leading sixth double-double of the season and junior Stephanie Wong (Palos Verdes Estates, Calif. / Palos Verdes Peninsula) poured in an efficient 16 points to pace the Caltech women’s basketball team at the University of La Verne on Saturday afternoon.

The Beavers outshot their opponents, 47-39 percent from the field, and came away with a positive rebound margin for the first time this season at 19-10, but the Leopards created 13 more shots and hit five additional three-pointers while committing 13 fewer turnovers. La Verne improves to 6-10 overall and 2-1 in the SCIAC, while Caltech is now 8-18 (0-9).

“It was a great game from start to finish, we were in it the whole way,” Head Coach Sandra Marbut said. “We knew we had better after a disappointing result at Oxy, and today we came out and showed that. Our pregame quotes, attributed to FDR, was ‘It is not sufficient to just want. You must ask yourself what you are going to do to get the things you want,’ and we made the game we wanted happen. We played as a unit, rebounded and shot well and just missed the mark on turnovers, which made the difference.”

La Verne opened up the scoring with the first five points, but Caltech fought back to take the lead at 16-14 with 10:02 on the clock behind a quick eight points from Lewis. The Leopards turned the tables, however, posting an 11-2 run to head into halftime up 25-18.

Lewis and Wong combined for the Beavers’ first 10 points in the second half and senior Bridgetton Connor (Albuquerque, N.M. / Albuquerque Acad.) capped the run with a jumper to cut the margin to four at 34-30 with 14:38 to go. Caltech hung within single digits for the next seven minutes until back-to-back three-pointers sent ULV ahead by 11 at 43-32, but Wong matched the feat herself on the Beavers’ next two possessions to trim the margin back to five points at 46-41 with 6:13 to go.

The Beavers finally got a clean look despite a pair of three-point games with two minutes to play, but two trips to the charity stripe allowed the Leopards to tie things up at 44-44. With the ball in their hands for the final possession, the Beavers could not get a clean look despite a pair of offensive rebounds, and the game went to overtime.

“When it went to overtime again, we just said, ‘Let’s enjoy playing some more basketball!’ Eslinger said. “I actually enjoy them – they’re exciting to coach. To see us battle the whole way, and the couple extra, says a lot about our program.”

Lewis scored 15 points, grabbed 11 rebounds and added three assists while Wong scored her 16 points on 7-of-11 shooting, including 2-of-4 beyond the arc, and pulled down six rebounds. Junior Kristin Anderson (Folsom, Calif. / St. Francis) chipped in eight points (3-of-6) and eight rebounds in just 22 minutes off the bench, with Connor matching Lewis with three assists.

“We know that having only nine players, just eight which played tonight, means everyone has to contribute,” Marbut said. “It can make you feel vulnerable or it can be a tremendous strength, because everyone knows the team needs them in all matters. We chose to make it a strength today, and just missed getting the win.”

The Beavers are back in action Wednesday at 7 p.m. when they travel to Whittier for a SCIAC contest.
ASCIT Minutes

ASCIT Board of Directors Meeting
Minutes for 23 January 2015. Taken by Sean McKenna.

Officers Present: Cat Jamshidi, Patrick Nikong, Annie Chen, Sean McKenna

Guests: Margaret Lee

Call to Order: 7:05

President’s Report (Cat):
- Library staff have been meeting with Cat, Connor, and Nima, and the discussion about hours led to the agreement stated in Nima’s email.
- MHF committee met today to consider second term funding proposals.
- ASCIT would like to remind everyone of the support offered by the UCC’s and Caltech Safety Net in light of the recent tragedy.

Officer’s Reports:
- V.P. of Academic Affairs (ARC Chair: Nima):
  - Absent
- V.P. of Non-Academic Affairs (IHC Chair: Connor):
  - Absent
- Director of Operations (Connie):
  - Absent
- Treasurer (Patrick):
  - OASIS Sangam, EWB Benefit Dinner applied for event funding, Entrepreneurship Club applied for club funding.
- Social Director (Annie):
  - ASCIT Formal is happening on Saturday, April 4th.
  - Interhouses are coming up soon, beginning with Ricketts on February 14th.
  - Annie is still working on the Magic Mountain trip for March 7th.
- Secretary (Sean):
  - Ordered MHF-approved projector/screen/sound system

If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions. The next meeting will take place on January 30th at 8pm in SAC 15.

Meeting Adjourned: 7:25
Brad/Chad
Business Tutorial: Isn’t marketing just making cool ads?

BRAD CHATTERGOON
Contributing Writer

Hey guys and girls. As it turns out, the plague is real. It seems that half of the Caltech student body is sick, myself included, and let me tell you, it’s been a real damper on the usual “get things done” approach to life. Despite the sniffs I made it to the SanPietro presentation this past Friday and heard from Page juniors Alex Pien and Jean Turban who took a trip to Cambodia this past summer! Sounds like it was pretty wild, involving leeches, being stuck on a rock in the middle of a rising river, and even transportation in a van next to two chickens. Get them to tell you the story if you missed it. Somewhat relatedly, anyone else want to apply for the SanPietro to go to Japan? This week’s article will focus on an introduction to the basics of marketing. It is important to note that marketing is not the same as advertising: advertising is only a subset of marketing operations. The best way to introduce marketing would be to talk about what is termed “the four P’s.” However, there has been a redefinition of what the four P’s are. The old P’s are relevant to the consumer side of marketing while the new four P’s are relevant to the firm side of marketing. I am electing to discuss the consumer side in this article.

Product: This is fairly self-explanatory. The product is the core of value creation and is devised to solve a consumer problem or address a consumer want. Products have a life cycle which goes through, growth, maturity, and eventually decline as the product is replaced or demand falls. Marketers need to know how to position the product, how to brand it, and how the product relates to other products that may serve adjacent or complementary functions.

Price: Marketers need to determine what the appropriate price for a product is. This can tie into price discrimination, which I still talk about later. For instance, when positioning a product as a “Student Edition,” it is likely that the pricing will have a lower price than one intended for general consumption. The marketer also needs to ensure that the pricing remains profitable for the firm. Pricing strategies can even affect how much perceived value is in a product and can make it more attractive to certain market segments. An example of this is readily available in clothing brands. Positioning a brand as “luxury” or “premium” with an accompanying high tag price can often capture profitable market segments without changing the product.

Promotion: How do we encourage consumers to buy our products? How do we let them know that it exists? These are the questions answered by promotion strategies. Showing movie trailers at the beginning of movies may seem obvious but it was probably a marketer who first came up with the idea to address the problem of targeting the market of moviegoers with their products. Promotion also ties into pricing strategies when one thinks about an “early bird discount” for someone willing to be a first buyer of the product, or of sending samples to persons with social clout that can endorse the product.

Place: Place really means distribution but it’s called the four P’s not the three P’s and a D that could easily be misinterpreted. How do we get our product to our consumers? Do we set up a booth outside Walmart and sell to people there? Perhaps a showroom Tesla-style? These are issues that need an answer. Marketers cope up with appropriate distribution channels, sometimes even innovative ones like the Apple Store. That should give you something to think about when you look at a product. Wouldn’t it be nice if we had a marketing class at Caltech? If you agree, be sure to fill the REMSFC Survey when I send it out this week.

Across
1. Under-water breathing device
2. Domesticated animal companion
9. Unexpected slide
14. In the past
18. Claw
19. Pull back
21. Item of clothing
23. Father
24. Name of the plantation in
25. Avatar
30. Holm oak
33. Snare
37. Saucy
39. Bulbous herb with single
41. Religious doctrine
43. Cleansing agent
44. Herbaceous plant with aromatic seeds
46. Annoy
47. Basic knitting stitch
48. Potent
50. Spline
52. Staining substance
53. Strong sweeping cut
55. Weep
57. Flower merchant
60. Entertain
61. Legislator
66. Simian
68. Gauntlet
69. Entertain
70. Pitch
71. Common
72. Persistently
73. Female sheep
74. Ahead of time
81. Swerve

Down
1. Evidence of previous injury
2. Grotto
3. A single undivided whole
4. Supervisory committee
5. Toughest steel or glass
6. Treaty
7. Self
8. Polynesian country
9. Junk e-mail
10. Coarse early-leaved cabbage
11. Symbol
12. Depression in a surface
13. Depression in a whole
14. Simian
15. Elliptical
16. Simian
17. Scorch
18. Adjust or conform
19. Rascal
20. Artistic
21. Part of a shoe
22. Enlistment term
23. Part of a circle
24. Bungalow
25. Spring
26. Anterior
27. Perissodactyl mammal
28. Molten volcanic rock
29. Book of maps
31. Ectoplasm
32. With relatively high volume
33. Personal journal
34. Fruit, malus pumila
35. Currency of Cuba
36. Color
37. Saucy
38. Relate
39. Staining substance
40. Staining substance
41. Staining substance
42. Taunt
43. Staining substance
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Acquired Taste

Dr. Z

“Perks of Being in Academia”

Georgio Kraggman

Answers to previous crossword

Can we please always have access to a quiet place to study?

Well, there’s not enough money to keep the library open, and besides if your house isn’t quiet, there’s OBVIOUSLY something wrong with House culture.

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