

Adage and Anecdote

Newsletter of the Jisan Research Institute

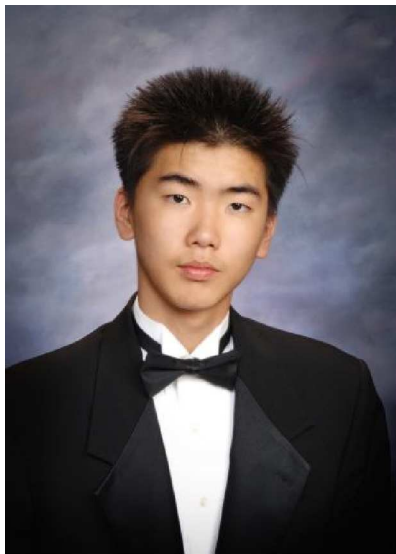
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Losing One of Our Own

Comments by S. Kazadi



It was June 12th, 2006 that JRI suffered its first loss of a student or alumni. Taeho Lee, a senior from Claremont High School drowned at Huntington Beach trying to save a friend from a dangerous undertow, days before his high school graduation. The event shook the JRI community, teaching us for the first time that life and death are part of our world. It was the first time that death touched our community in such a direct way, and the reverberations echo still through the community.

Now, several months later, I still feel the effects of our first tragedy. In some ways, the day seems so far away – so long ago in my memory. In other ways, it seems like it just happened. By now, if Taeho had lived, he would already have moved on from the JRI laboratories, working instead with his chosen research mentor at UCSD. This would have made his

appearances at JRI sporadic at best, but each time, I would have known that sometime in the not too distant future, Taeho would come back to visit, bringing with him his happy smile and insatiable enthusiasm. How unfortunate for us that this will not actually happen!

What I did know about Taeho was woefully incomplete despite the long hours he spent at JRI, working through the difficult programs and writing tasks that were put in front of him. The young man I knew was most notably, always exhausted. I never quite knew why until after his death, but I remember telling him that he had to find a way to get to sleep and shouldn't spend quite so much time playing video games at night. While I typically asked him to grab a nap and then try to get some work done when he was *really* tired, I worried that he wouldn't be able to get anything done because of his advanced exhaustion. Despite the fact that he was very often times exhausted, Taeho was able to not only complete his task but do so in a very short time period against great odds. I was impressed by both him and his research partner, Daniel Noh, in that they did not give up in the face of almost certain defeat by time and difficulty of the project. They succeeded in the end.

But there was much that I didn't know about Taeho. I had yet to meet his friends. One can usually gauge another by the company he keeps and the people who know and keep him. Taeho's close friends were diverse – from many ethnic groups and age groups. They were all respectful people when I met them, and showed a deep concern not only for Taeho but also for his family. The praise they had for him was deeply felt, and they pledged that they would not only keep him in their memories, but help him keep his promise to care for his mother in his absence. Taeho's family formed a tight ring of support around his mother, despite their own grief, and the community at large who had known

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The Metamorphosis of the Jisan Research Institute

- Eleven years
- Thirty two published scientific papers in peer reviewed scientific publications.
- Five new technologies, three of them patented, including
 - a method of building a nearly floating axle and
 - a method of pumping water without using moving parts.
- Nearly one hundred graduates.

That's the scorecard of the Jisan Research Institute in its young history. Over the past eleven years since it's founding, the Jisan Research Institute has accomplished a great deal of different things while avoiding oblivion on numerous occasions. During this time, the Jisan Research Institute has proved that a community could be built around a single ideal – that young people, given half the chance, would be able to generate and see through to completion interesting research. Such young people could then go on to do other great things in their lives which they might not have done if they had not first come to the Institute. This ideal has served as the driving force behind the Institute. The spirit of discovery, unbridled passion, and enthusiasm that has fostered this Institute in its quest to change the world for the better has been an inspiration to the people of the Institute and beyond. It is this spirit that we seek to preserve as we move boldly into the future.

As the Jisan Research Institute continues to grow, it has become clear that it also needs to diversify. While the research program has become a powerhouse for students and for the Institute, it does not completely meet the needs of all of the students in the Institute. As a result, it is in need of support by other programs designed to help provide for other needs of students. However, rather than simply adding new classes to the Institute, the solution requires a transformation of the entire Institute.

As a result of the need, the Jisan Research Institute has begun a major transformation of the Institute which will redefine the laboratory into a larger, more diverse educational and scientific organization. The new organization, whose name is the Jisan Institutes, will be an umbrella organization for independent Divisions, each of which will provide different services. Currently planned Divisions are the Jisan Prep program, which is already under way, the Jisan Writing Institute, also already under way, and the JiTech Division.

- Jisan Prep

□ This Division of the Jisan Institutes is meant to provide test preparation and tutorial services. This program, which is being built up under the leadership of JRI graduate Daniel Choi, has already begun providing services, and its track record over its short history is impressive. Boasting an average student improvement between 300 and 400 points on the SAT and significant gains for students needing help in schoolwork, this solid program applies elements of the Jisan Research Institute program that are helpful in teaching students their topics.

- Jisan Writing Institute

□ This new program seeks to provide an identical service to young emerging writers that the Jisan Research Institute provides for its young scientists, engineers, doctors, and mathematicians. This writing program is designed to not only teach young individuals about the mechanics of writing, but also to help them to find their footing professionally. This is accomplished, again as with the JRI program, by pairing students off with Writing Advisers after basic training has been completed. These Writing Advisers are accomplished writers who have published in several different venues over the years. Writing Advisers are paired with students depending on mutual interest. The Writing Adviser will not only acquaint the young writer with his or her area of expertise, but will guide the young writer through the creation, development, completion, submission, and subsequent publication of original literary works.

- JiTech

□ JiTech is a new program designed to take interesting new technologies and prepare them, in one or more instantiation, for market. Current projects include technologies from hardware projects, but may eventually include technology from software projects, such as the swarm economics research or swarm control research.

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Alumni Notes

There and Back Again

by Albert Chang

"If you read this, you'll judge." -Kurt Cobain

In May, I swore off meat, put all my stuff in storage, and got on a plane for China. I was going on a 2 week vacation with my family in mainland China before settling down in Hong Kong for a 6 month internship at a wireless communications research company. The trip was fun, and we got to see almost all the famous sights in China - the Forbidden City, the Great Wall, Terra-cotta soldiers. Overall, China was fun, amazing, educational - pretty much any positive adjective you can pull out of your dictionary would apply. But then the day of destiny came and I found myself sitting in the office of my would-be boss, a decorated Stanford PhD who had worked at Bell Labs and had 40-something patents to her name. Intimidating stuff. My father asked her to take care of me and to treat me as her own son, much to my embarrassment.

I started work. My mom gave me a hug goodbye and I saw her get on the bus and leave with my father and sister toward the airport. I can remember now the nervous excitement I had on being completely on my own. It was similar to the way I felt when my parents left after dropping me off at college. But the euphoria was short-lived. It was awkward being at work. The first week was full of meetings, where I'd go and find out about the research projects in the department to see which project I'd be interested in working on. I remember my first day lasting from 8am to 7pm. My brain was fried from listening to all this stuff I couldn't understand, expressed by people I couldn't relate to. My coworkers were all 30+ PhDs who spoke mainly in Chinese. The latter wasn't a huge problem for me, since I spoke at home, but the former was an indomitable wall of experience and education that I had no hope of scaling at the moment. I was also going through a sudden shock of withdrawal of all kinds - no friends, no family, nobody even familiar, a new environment. At night I took to coming home sullenly and trying to play my guitar. But somehow it had lost its luster to me. Some nights I gave up on that and hopped on the trains to see Hong Kong, but it only made me feel lonelier. I was a ghost, drifting despondently amidst a teeming anthill of bustling life.

And so it went, for months on end. I tried checking out the spots where people my age would go to - the infamous Lan Kwai Fong bar area, Mong Kok, Kowloon. But it was the same story told by a different bard to a different tune. A loneliness deeper than any I'd ever felt settled about me; meanwhile my professional life was losing its purpose and direction. I was lost at work, constantly in over my head. Outside of work, I had nobody and nothing, only my guitar to hear my Chinaman blues. Oftentimes, I'd sleep at night inside the vacuum of my apartment and listen to the deep silence eat itself to an infinite oblivion.

But I was starting to get used to everyday life and started to dedicate myself to music to keep me from idling and thinking about life and the bleak future. My mother and cousin called me quite often, which warmed my heart to know that somebody somewhere cared, even if I had no way to touch and breathe their human presence. My job convinced me even further that I would not be fully happy and healthy working in a cubicle in an office, making a \$60,000 annual salary and getting fat, then going home to meet up with friends to catch happy hour at the local Dave and Buster's. I saw no significance in that life, in that bitter pursuit of material happiness chased with chemical sedation at \$4 a glass. No, I realized, that was not what I wanted at all. I had another need to fulfill, a spiritual one that craved expression and release. I had thought, as a child, to do it through art and painting, but parental pressures and practical financial concerns found me disavowing these artisan goals.

In hindsight, it all created a volatile situation that cast itself upon music - a longtime passion. In protest to the forlorn state of mind

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Taeho – continued from p. 1

him did their best to provide strength to the family in their time of need.

I came to understand that Taeho had been a young man of compassion, a generous spirit, and had been inviting to many people no matter their place compared to his. I found in Taeho, through his friends and their praise and remembrance, a quality I had always hoped to bring to JRI – a giving spirit that would wrest the natural arrogance of man to the ground, allowing him to contribute selflessly to the world. This was the Taeho I'd only seen ephemerally at JRI, though his friends and greater community knew it well.

Eventually, I found the reason that Taeho had been so tired all the time at JRI. One of Taeho's classmates had been afflicted with brain cancer, and his condition had been deteriorating rapidly. So rapidly, in fact, that the classmate was no longer able to complete his homework. However, he had a dream that he would complete high school and possibly continue on to college. Taeho had made it his mission in life to transform this dream to reality. He began completing his friend's homework after his own each day, spending long hours deep into the night. Taeho let everyone (including me) think that he was playing video games; instead, he was working hard to give his friend this wish. I was told that his efforts had paid off, and his friend had actually been accepted to Pomona college!

Of my student, I can say that though his years were short, he was able to become one of the most extraordinary students I've had the pleasure of teaching. Not only did he manage to put down research results that might prove to be useful to scientists, but he put down a legacy that changed the course of history. His death arrived through an act of fraternity and compassion – an act that saved the life of a friend. His life brought people together – people who might otherwise not have come together. His life helped give people hope. His life helped make dreams a reality.

Taeho's life serves to underscore an important lesson about life in general. The people we remember and revere, those that change the world even in a little way, are always the ones that give of themselves. Those who give us the greatest hope are those that live and die giving selflessly. It is perhaps the hardest thing to do in one's life, as there is so much temptation to take care of one's self. Occasionally, people like Taeho remind us that our lives are not meant to be ours, but rather meant to be shared with others. Taeho embodied the hope one finds when one witnesses an act of pure compassion and giving - one that lasts a lifetime and never diminishes until the life itself of the person doing the sharing is utterly spent.

Metamorphosis – continued from P. 2

- Jisan Mathematics Institute (planned for late January 2007)
 - The Jisan Mathematics Institute is a new program designed to do two things – challenge students in the quick solution of interesting math problems in preparation for competition, and teach students how to generate new mathematics by solving unsolved mathematics problems in groups and publishing the results in math publications.

Two of these programs will be described later in this Newsletter by the people heading them up.

The new structure of the Jisan Institutes will allow the rapid development of new locations. New students and continuing students are expected to be able to find the proper programs to meet their needs and further unparalleled programs to fill their needs once their initial foray into the Jisan Institutes programs has been satisfied.

It is expected that the addition of these new programs will complete the Jisan repertoire, allowing students to find help in an organization they know and trust, and preventing them from wasting time and money on organizations designed for making money. The Jisan Institutes is intended to inherit the nonprofit status and disposition that parents and students have come to expect and trust.

During the coming months, the Jisan Institutes will take shape as a new entity. While we are still in the process of defining much of the management structure of the new organization is already well understood, and key people have already taken up leadership roles needed management roles. The Jisan Research Institute, under the leadership of Dr. Sanza T. Kazadi, will remain unchanged in its process and management. Mr. Daniel Choi is managing the Jisan Prep program, which handles test preparation and tutorial classes at the Jisan Institutes. Ms. Jane Han manages the Jisan Writing Intitute. Together with Samaneh Omidghaemi, the suprisingly creative mind behind JRI's outreach activities, these individuals are the Leadership Team of the Jisan Institutes. Young and energetic, they will be bringing wonderful new programs to the Jisan community in the very near future.

The Jisan Institutes is looking forward to an exceptional year of continued growth. 2006 represented a year in which a great deal of recovery and growth happened. Our staff, which surged from three individuals to fourteen, is made up of dynamic people who have a genuine interest in helping young people move forward in their lives. A combination of seasoned JRI professionals and newer excited people, the Jisan

Institutes is now poised to expand and grow, providing an increasing repertoire of innovative programs.

JRI's Second Ever Level 5 Student

For nearly three solid months this summer, on most weekdays a semi-permanent resident of the Jisan Research Institute struggled with his research. The work was long, tiring, and tedious. Unlike software projects, which are easily corrected when a mistake is made, this project was a hardware project. When a mistake is made on a hardware project, the results are disastrous – the entire part being built (or which might fail) must be remade, completely. The student, one Mark Webb from Santa Monica, built, rebuilt, and rebuilt again his research project, a water pump which has no moving parts and is completely powered by the sun. Perhaps rebuilding it once or twice would have put off other students. Maybe rebuilding four or five times would have been enough to convince one to call it quits. It wasn't enough for Mark. Not ten, not twenty, or even thirty rebuilds were enough. This summer, after two long years of work, Mark and his Research Mentor, Dr. Sanza Kazadi, finally finished building prototype number thirty-nine (39). This prototype of the water pump was nearly perfect, boasting an ability to pump and purify the water exactly as the theory has promised, and the earlier prototypes had hinted. After years of hard work, Mark and Dr. Kazadi finally achieved the development of this new technology, placing it on the laboratory roof for demonstration and measurement.



Mark Webb becomes the second ever student at the Jisan Research Institute to achieve Level 5.

A few months later, Mark and Dr. Kazadi finished writing up their research, and the project was completed. Unlike most projects, however, this particular project was conceived of by Dr. Kazadi and improved on by Mark along the way, with Mark's contribution becoming critical to the function of the final device. When the project was completed, Mark

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The Jisan Writing Institute

by Jane Han



As the Jisan Research Institute transforms itself into the Jisan Institutes, and as it defines which programs it will generate in the future, one of the things it must consider is how it will preserve its spirit. The spirit of the Institute has always been centered around the idea of making possible what many people believe is impossible. It's what has defined the Jisan Research Institute program, and what continues to define Jisan in general. We will continue to make sure that as the Institute continues to grow, this indomitable spirit continues to be part of what we impart to our students, and therefore, to our community.

In generating this new program which I'm bringing to life, the Jisan Institutes has done it once again! We have created yet another truly unique, incredible educational opportunity, this time for young writers. In the same spirit as the Jisan Research Institute, we have created the Jisan Writing Institute's, whose mission is to nurture young creative potential and guide beginning writers into a professional writing field. It connects beginning writers to editors, copywriters, agents, and experienced writers who have published already and understand the mechanics, art, and business of writing. These people are brought together in the context of a dynamic, robust creative community, in a way that no other writing program has done.

Students will produce original creative pieces in a variety of genres. In order to effectively communicate themselves to the world and prepare for publication (yes, actual publication), students will walk through five levels of training that initially focus on mastery of grammar, mechanics, and technical aspects of writing. Once this work is completed, students will work with a professional writer. The professional writer will guide the student through the production of an original creative work. Working with the professional writer, and also with agents, editors and other professionals who understand both the art and business

of writing, the students will gain an appreciation for both aspects of writing.

The Jisan Writing Institute is modeled after Jisan Research Institute's (JRI) Precollege Program, the longest running and best developed of all Jisan programs. In this spirit, JWI is specifically designed to provide young students an opportunity to carry out high level writing with the guidance and coaching of expert writers in various fields. Moreover, JWI is specifically designed to provide an environment in which students from all different ability levels can participate in a dynamic learning community to become excellent writers. While the program is rigorous enough to be challenging to students who find school rather easy, it is structured in a way that students who require more time to move through topics can take the time without fear or pressure. Students in the JWI program learn how to share their experiences and voice their identity to the world in a way they probably have never imagined before. The mechanism of writing creatively, which is often not taught effectively in traditional American schools, is perhaps the most important skill to publication. JWI students will have the ability to apply these skills not only to the specific areas of writing underway at JWI, but in all future areas of work.

Our expectation is that upon completion of the JWI program, students will go on to produce many more creative pieces and find avenues to publish these works. Over the past ten years, JRI has assisted students in finding their ways into medical schools, professional schools, PhD programs, and careers in science or technology; JWI is confident that it can provide the same resources to its writing students to advance their writing careers. As of January 2005, 62.5% of JRI graduates had entered medical school or medical professional school, 12.5% had gone into Ph.D. programs, and 25% had taken jobs in research or technology-oriented fields. Our goal at JWI is to empower young writers with the resources to achieve success just as JRI has done and continues to do for its young scientists. We desire that each of our students become masters of the art of writing and go on to become influential voices in their generation.

What will Jisan come up with next? Only time will tell. But one thing's for sure. Jisan is hooked. This passion for education and empowering the youth with resources to unleash their potential is like a drug, an addiction, and Jisan can't seem to get enough of it. I, for one, look forward to continuing this tradition, as we move forward. You can count on me to run a solid program that will generate greatness among your children!

Jisan Prep

by Daniel Choi



Some of you may have heard murmurs amongst other Jisan Community Members about this SAT class that started up recently at JRI. Some of you may have seen fliers near the entrance of one of the JRI laboratories challenging students to “Accept Nothing Less Than Success” through Jisan Prep. Jisan Prep? What’s that? Jisan Prep a new division of JRI: a tutoring and test preparation center that assists students in achieving their academic goals.

Jisan Prep is not your typical test prep/tutoring program. Our mission statement is as follows:

- 1) We strive to provide the highest quality and most effective test preparation found anywhere through our amazing instructors and proven curriculum.
- 2) We instill in students a passionate desire for academic success and achievement.
- 3) We equip students with practical life and leadership skills which allow them to succeed not just in academics but in everything they do.

As you may have noticed from the mission statement, much of the focus is not on getting students to just raise SAT scores or to get the quick A on their next physics exams. Jisan Prep is concerned about changing fundamental philosophies that students hold towards education.

I have an extremely extensive background in education, deeply rooted in my own experiences throughout high school. As a highly motivated and ambitious student, I attained a great deal of academic success. When I applied to college, I had a 3.98 unweighted GPA at Arcadia High School, with the maximum number of AP classes on my transcript. I was a National Merit Finalist. In one summer, I raised my SAT I score from a 1250 to a perfect 1600. I was a student of JRI for three years and published a paper in evolutionary hardware. I was accepted to schools such as University of Pennsylvania and Stanford, but chose to attend the 7 year medical program at Northwestern

University.

Throughout high school and college, to earn extra money, I found myself tutoring other students a great deal. Students came to me because they thought I could raise their SAT scores or get them that A they wanted in whatever AP class. However, after working with me, students walked away with much more than a higher SAT score or test grade. They walked away motivated and ready to challenge themselves. They began studying in order to pursue their dreams of becoming doctors, lawyers, businessmen, etc. Most importantly, they were studying because they knew **why** they were studying. Former students of mine who used to pursue high school academics lackadaisically and without excitement are now pursuing prestigious careers in business and medicine.

Perhaps it was Jisan, with an identical philosophy behind its educational programs, that made me into the kind of teacher I am. Like Dr. Kazadi before me, when he created the Jisan Research Institute, I realized more and more that high school students are always being told what to do but never asked why they should be doing what they’re told to do. You should see how a student lights up when he is asked what he wants to do one day in the future and then realizes that he has the keys to accomplish all he wants right in his hands. I am absolutely convinced that the engine behind a straight A student is NOT inherited intelligence or natural talent. I believe that any student with the proper study and goal planning skills and a burning desire to succeed can do amazing things, both academically and in life.

I’ve taken this year of my schooling off, in part to take a break, and in part to get experience doing something my education probably won’t provide. During that year, I’ve decided to put my knowledge to good use creating and growing the Jisan Prep. program. While it’s probably well known that Jisan has had an SAT class for years, it’s probably just as well known that the SAT classes and tutorial classes Jisan has had have not performed well, historically. I’m happy to say that I’ve been able to get them going in a completely new way, and that they are not only functioning well, but they are prospering, as are the students participating. You can look forward to innovation and success coming from our SAT and tutorial programs from here on out.

You have all heard the saying “If you give a man a fish he has a meal for a day, but if you teach him how to fish he will eat for life.” Jisan Prep does not exist to merely raise students SAT score or to do a quick fix on students’ grades. We are here to infuse students

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Research Notes

Swarm Economics

by Paul Kim, Joshua Lee, John Lee and Sanza Kazadi

One of the strengths of Swarm Engineering is that it can be used to develop control algorithms for large groups of agents. These control algorithms produce specific global outcomes that can be proved before the swarm is actually built. This provides a number of distinct advantages over building swarms of agents and then tinkering with their control algorithms until the global goal is achieved. Most notably, it eliminates the multiple cycles of design and trial which can lead nowhere fast.

What most people aren't aware of is the scope of the Swarm Engineering paradigm. Most researchers in swarms center their work on autonomous robotic systems or computational systems. This has historically come from the engineers who typically work on swarm engineering systems. However, there is nothing that requires the swarms to be made up of computational or robotic systems. In fact, since the overall outcome of swarm engineering is the development of global outcomes using local controls, it might actually work as a design or modification technique for local or regional economies.

One of the central questions that one might ask is, what can swarm engineering do for economics? This is the subject of our swarm economics research project. Imagine that you are part of an economy. You buy and sell commodities (products and services) and the sale and purchase of commodities allows you to gather or potentially lose large amounts of money. One might ask broad questions about the economy such as what is the productivity of the economy, what is the efficiency of the economy, what is the rate of inflation, etc. These questions are common in economic circles.

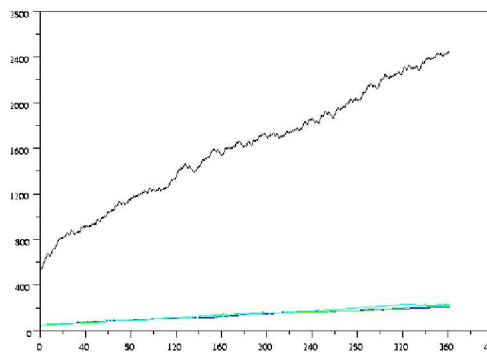
The interesting thing (to us) appears when the questions turn to, how does one direct an economy? That is, if one wanted to eliminate inflation or increase GDP, how might one accomplish this? What must the individuals in the economy do in order to guarantee one of these outcomes? This is an interesting problem that many economists have explored and continue to explore. Our research group is interested in approaching these questions from a swarm engineering perspective, where the guiding principle is design of the global structure of the swarm rather than probing of that structure with various studies.

We have been particularly interested in trying to understand how one might control price increase over time in an economic system. Continual price increase is apparently caused by a tendency of individual agents to desire increases in their available funding. Both

producers and consumers alike engage in behavior that seems to lead to inflation as a natural consequence of the agents' behaviors. Put simply, workers would like to consume more, so they typically want to have regular wage increases. Producers want to make more money, so they want to behave in a way that mimics a monopoly – higher prices and limited capacity. Because producers must pay more for workers who want more money, and because the producers themselves can increase prices in order to try to get a larger profit, both groups have an incentive to increase the cost of their services, thereby increasing all overall prices.

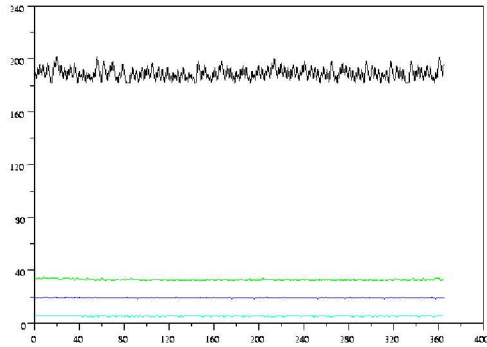
Using swarm engineering techniques, we have been able to examine the runaway price effect. Moreover, we have generated a method of limiting the prices in simulation by using a control method derived using swarm engineering techniques. This method uses a combination of agent behaviors and production of information. We have found that in the absence of a consumer buying behavior with a bias against buying goods with a large profit margin, and in which the bias is an increasing function of the profit margin of the producer, the price is uncontrolled. Even a slight bias can produce a stabilization of prices.

The situation is depicted in the figures below. On the top is a cost curve as a function of time indicating that the price of a commodity is continually increasing. On the bottom is the same data with the bias turned on. Notably, the price of a commodity stabilizes once the bias is turned on, and the stabilized price is rather near the cost to the produce the product. Our simulations indicate that in simple economies, this simple behavior can produce a price stabilization despite being an agent-level decentralized strategy completely utilized by the consumer. The implications for broader economic policy is straightforward.



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Our research is continuing to probe the various ways these simple behaviors modify the overall global behavior. For now, we are happy to report that swarm engineering techniques have shown some preliminary effectiveness in directing simple economies. The full extent to which this is possible remains to be seen.

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and Dr. Kazadi submitted a patent on this technology naming both of them as co-inventors. This achievement makes Mark the first patented JRI student.

It was Michael Chung who became the first JRI student to attain a Level 5 rating. Mr. Chung clinched this distinction when he independently developed a research project that looked into security issues associated with a distributed computational machine. His study stumbled across a mathematical proof that the potential for crime in a society could not be eliminated, and so, by extension, neither could crime.

Mark's contribution to the project he worked on centered on the design and implementation of the solar pump. While the general design of the pump had been done long prior to the creation of the first prototype, Mark suggested employing a vacuum in the final design. This would, he reasoned, help in removing some of the resistance in moving water from one point to another. When this was implemented, the speed of the pump improved significantly. It was shown later that this single improvement would exponentially improve the performance of the device over long distances.

As a Level 5 graduate of the JRI program, Mark acquires a few interesting rights and privileges. First, Mark may now carry out research using unused JRI laboratory resources. This technically means that Mark has earned the right to use the JRI laboratories indefinitely, a great advantage as he continues to develop as a scientist. Secondly, Mark has earned the

right to create research groups at JRI, which can be led by him under the loose supervision of a Research Mentor. This means that he can put together research groups to investigate his ideas in the future, providing a potential resource as he continues through graduate school.

JRI is proud to add his name to the very slowly growing list of Level 5 graduates. We extend to Mark a heartfelt congratulations and welcome to the ranks of this elite group of JRI graduates.

Comments from the President

by Sanza Kazadi



The other day, I walked out of a classroom at the Pasadena Branch of the Jisan Research Institute smiling. In the classroom I had just visited, Raven Salinas was being tutored by Jhanisus Melendez. Mr. Melendez is a former JRI student who is currently a JRI instructor, as he goes through college. Ms. Salinas is a high school student currently going through the JRI program. Twice a week, Mr. Melendez brings Ms. Salinas to JRI from her school and then works with her, helping her to understand her school work. I am smiling because of something Mr. Melendez told me.

"I feel like helping her in her schoolwork," he had just told me. "She needs the help."

This was his justification for coming all the way from Los Angeles twice a week, driving to Ms. Salinas' school, giving her a ride to JRI, and working with her for three hours. I understood what he was trying to tell me. In the same way that JRI has been a source of strength for Mr. Melendez since his time here, Mr. Melendez was trying to be a source of strength for Ms. Salinas. There's a simple word for this. Mr. Melendez had become more than a student – he'd become a member of a community, one that had embraced Ms. Salinas and was now going about its business seeing to her needs.

It's that elusive piece of the equation that seems so absent in Southern California, as judged by my Midwestern heart. The one thing that so many people

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Alumni, continued from p. 3

I found myself in, I began to play the guitar obsessively, up to 6 hours a day nonstop, and 10 on weekends. Around August, I had to stop because I was doing myself serious injury - I couldn't even make a fist or type without pain shooting through my fingertips from playing so much and so hard and so long. Needless to say, I got pretty bummed out when I took the necessary hiatus from my instrument that had become my lone companion and best friend.

But life turned a new leaf and my boss, Dr. Yi, found some time to talk to me and invited me to spend some time with her family. I had been thinking about going back to America near the end of August, having prepared to declare the Hong Kong fiasco an unequivocal failure on any professional, educational, and academic front. She tried to talk me out of it, and I really broke down - telling her how I had come to believe that science wasn't for me, and that all I wanted to do now was play music, and all I ever wanted to do was express myself through art or writing or music, how I felt trapped in my Asian family and by the expectations heaped up on me - the Golden Child who scored high on his SATs and APs, got into a good college in a good major, and had such a bright future that would make his parents proud. She was very kind and understanding, and really listened to everything I had to say. I am very thankful for it. Being an older and wiser human being, Dr. Yi saw that there was indeed the desire and hunger for my artistic endeavors, but recognized what I could not, or would not, at the time - that I still had an interest in science and mathematics, no matter what I said or believed. She reminded me that my life's path led me to engineering and Berkeley for a reason, and that I should not so easily give it up just because it had become very difficult to deal with. "You're still very young," she said. It excited her to vicariously picture the rest of my life stretched out before me, and that I had time to figure it out. "You've come a long distance over a great ocean, and it would be a shame to waste all that effort now." Her words had merit, and I've turned them over in my mind many times since then.

She managed to convince me to stay the way she wanted, and I got to see her family the way I wanted. It ended up being a crucial connection, being part of a family again. They were good people - some of the best I've ever met. It healed some of the loneliness, and I got to showcase my developing skills on the guitar. It heartened me, more than anything else that happened on that island, to have Dr. Yi pat me on the back unexpectedly one day when I was practicing in the room they gave me, and sympathetically murmur "You really want to be a musician, don't you?"

I was also feeling more clearheaded and healthier, mentally, than I had been in a long time. I was refreshed, born again with a purpose and a goal in my mind. I felt like I saw what I really wanted to do with myself, and all I needed now was the courage to take the leap and to do it. For years and years, I had buried my own desires, thinking that it would all be okay since I'd make a pretty good living being an engineer or a businessman or some nonsense like that, and that I could just listen to records and read books in my spare time. But now all these desires, which turned out to be the truer and more honest parts of me, were beginning to bloom out of the mire that I'd thrown them in. Perhaps it's the youth in me, but I felt myself evolving and changing in a direction closer to my true destiny in those few months than I had in the past 6 years - ever since middle school, really.

But one thing I've been disbelieving is that every story has a clean conclusion. There were many moments I despaired and thought how late I was coming into my own skin, how I could never get good enough musically to do what I wanted. I thought about how I was throwing away my future, right into my parents' face, and how lonely and difficult the road ahead would be. How much of these feelings, I asked myself, was just me being immature and ducking out of responsibility? I didn't feel like I was expecting to never ever suffer or have to work hard. Nor did I feel as if I harbored any quixotic notions of work and responsibility being 100% fun just because I'd be doing what I really wanted to do. It doesn't bode well to dwell upon things though. I try and tell myself that those issues will work themselves out, and that time will strip away any immature fantasies I still have.

At the same time, work was not getting better either - I still felt lost and wasn't accomplishing anything at the office. Finally, I decided to just call it quits for good and come back at the end of October. Before then, I wanted to go to China to visit my friend in Beijing and my friends in Shanghai, and just see China the way I wanted to see it by myself, without a tour group. October had barely begun before I set out on my mini-vacation, going first to Beijing before Shanghai.

In Beijing, I stayed with my best friend since first grade. He was studying abroad there and I got a taste of what it would have been like to study abroad in China - my original plan. That's when it really began to dawn on me how removed I had become from the academic world. It was nice being in a college setting again, but there was something disturbing about it that I couldn't put my finger on. But it comforted me that it was still China, even as the college thing was weirding me out. There truly is something about being amongst your own people in your own country, despite the fact that I stuck out as a foreign Chinese, assumed to be wealthy because of my American passport. I had gotten used to dealing with the rather straightforward, and what Americans would consider rude, Chinese manner. But then again I've always detested fakeness and the whole shmoozing deal, so I really didn't miss that aspect of American life at all. My friend showed me a good time - taking me out to hike, and out to hang out with his friends. It gave me a strange pleasure to live in a manner more becoming of my social and financial status in the world - I shared a cramped bed and slept on floors, wore the same clothes all the time.

Alumni, continued on p. 11

Prep – continued from p. 6

with a burning desire for success and to equip them with the necessary skills to succeed in all aspects of life.

Jisan Prep. opened its "doors" within the Jisan Institutes three months ago. Since that time, over thirty students have participated in Jisan Prep's unique SAT I program. ***The average score improvement for the total test is about 250 points!! Moreover, several students have had remarkable improvements under my watch.*** Notably, Kamran Mossaughari from Cresenta Valley High School improved by a combined score of over 600 points. John S. Lee from Claremont improved by 150 points math and an additional 150 points in writing!

We are ready to work with students in a wide variety of areas! Students needing help in any of these areas as well as help in classes are strongly encouraged to seek help with Jisan Prep. Registration for the following classes is currently open:

- SAT I
- SAT Subject Tests: Biology, Physics, Chemistry, US History
- Science and Math tutorial classes
- College essay and application assistance

Current Jisan students receive extensive discounts on class tuitions. You can reach me at (626) 795-1517 if you have any questions.

Thank you in advance for the opportunity to work with your students. It is the greatest privilege and honor.

Comments, continued from p. 8

crave, but seems to be limited to small groups centered around churches in this vast sprawling wasteland of disconnected peoples. It's community, a group of people brought together by a commonality who look out for one another, assist when assistance is needed, and connect with and maintain contact with one another. It's what makes JRI different from an SAT preparation school.

I was smiling because I saw that it had become a part of a former JRI student's thinking – that we are part of a community and therefore helping one another is the natural thing to do.

It's not so hard to see in other people and activities around JRI. One common occurrence at JRI events is the presence of Robert Johnson, father of Daniel Johnson, taking pictures of JRI events. Another is a cadre of JRI parents bringing food, drink, cups, utensils, etc. to these same events. Other activities of JRI community members are assistance in translating for parents of current students, the creation and maintenance of carpools, and a wide variety of activities.

Like any community, we are keen to know what is happening in our members' lives. From things such as the consulting firm Isaac Park is working for to the flowers at Yan Qi's wedding, we want to know. We try to keep tabs on everyone who comes through JRI, attempting to track down lost JRI students such as Angel Li and Amos Zhang through the grapevine, learning from their friends how their lives are going. Because when they want to move on to the next place, such as graduate school or a job, we want to know, and to be able to provide a helping hand if possible, through the efforts of our growing community.

It's quite a daunting task to reorganize an organization, bringing on line new programs and merging them into the old. It's very easy to get caught up and carried away. Should we put together two SAT tutorials or one? Should we add writing programs aimed *just* at poetry? How much should we charge? Do we go for broke and adopt a more aggressive policy?

Change always comes to organizations. One of the main problems with growth is that change can alter the spirit of a place. Sometimes this is a good thing, and the organization can grow into something greater than it was before. Many times it's a bad thing as the organization becomes more commercial, losing the spirit which made it great as it becomes large.

It is precisely this spirit which I very much hope to preserve. JRI was founded on the idea that its purpose is to support the greater American and world community. This is done by creating great research

programs and by demonstrating by example alone that each individual student is capable of remarkably more than they might imagine. The hope has always been that people will grow into leaders in their communities, and bring with them a passion and resolute determination that might otherwise not have been possible. Moreover, it is my personal hope that people will make the communities in which they live a priority, assisting others when possible and engaging these communities so as to bring forth capabilities that the communities never knew was there.

If I may be allowed to hope “aloud”, I hope that the Jisan community that emerges understands that they are not here for themselves, but for each other and for the greater communities in which Jisan lives. As we change, I hope that Jisan will maintain its tight-knit community atmosphere and that the various sub-communities will remain connected with one another long after their work at Jisan is completed.

For it is a great joy for me to hear that Andy Bae and James Yang have become life-long friends. It is heart-warming to know that Daniel Choi, Jhanisus Melendez, Peter Hung, Paul Hung, Lauren Lee, James Wigglesworth, Brent Goldman, Hamik Mukelyan, and Albert Chang have all come back to JRI to teach. In each case, one of the motivations was to “give back” to an institution and a community that helped each of them grow into the people they are.

I hope that in the future, Jisan will continue to be a place where relationships are forged and stand the test of time. I hope that in the future, Jisan will continue to be a home for the people who come to study, who bring their children to study, and for those who have been part of the Institutes in the past.

JRI Classifieds

Got stuff to sell? Put them in JRI's newsletter and let your JRI community members get the first crack at your used treasures! Sell your items to JRI students from coast to coast. All you need to do is email the listing (and possibly a photo) to office@jisan.org, and the listing will be included in the next issue, as space allows. If you find an item on this list that you would like, email office@jisan.org to contact the seller.

Hmmm... no classifieds have come in yet... Come on people! We know you have them...

YOUR AD HERE!

Come, on, you know you want to sell something...

Alumni, continued from p. 9

After a week, my regrettably short stay was over and I moved onto Shanghai. The highlight of this trip would have been an excursion to Lu Shan - a famous natural park akin to America's Yellowstone or Yosemite. Unfortunately, we couldn't get bookings so went instead to Huang Shan - the Yellow mountain. We bummed around Shanghai the first few days, hanging out with friends. Mid-week, we hopped on the train in the Shanghai station and was on our way to Huang shan. It was an 11 hour train ride, so we slept on the train, 6 beds to a compartment. It was dirty and itchy and generally disgusting - but it was really wonderful to me because of it. At Huang shan, we met up with the tour group that would take us around the mountain, and began the journey up. It is impossible to paint the experience and feeling of traveling through that truly beautiful park, hiking up titanic mountains of stone, dotted with vegetation, that towered above the clouds and scratched the heavens. We took pictures, but even they can't capture the way I felt, standing on the ledge of a straight cliff falling down into a like moss on a rock. For two amazing days we lost the world and gained freedom. There was a point when my buddy and I were hiking around at night and stopped to drink in the complete stillness. It felt like we were wayward souls perched alone atop a rock nestled in some forgotten corner near the edge of the universe. Eventually, we got back to the hotel where I spent half an hour sitting in an old dilapidated mattress outside of our room looking at the fog creep in on little cat feet, accompanied by the odd spider or cockroach. I fell asleep on a damp, dirty bed, to the chorus of 6 other Chinese nationals snoring the midnight hours away. Descending back into the polluted city amidst the noise and car exhaust was strange and depressing. I spent three hours walking around the train station, killing time before boarding the cramped train with its now comfortable bed, back to Shanghai.

I felt displaced from it all when I got back to Hong Kong. I had a nice little last week, and spent the last few days at Dr. Yi's house again, playing with her 3 boys, golfing with her husband, and playing guitar. I thought I'd feel sad, but I really didn't. I just felt unreal, as if I existed in an unseen and forgotten wrinkle in reality. I fell in and out of dreams on the plane ride back, and we hit a current of bad turbulence that has now convinced me that falling to my death in a plane is probably the worst probable way to die. I stumbled out of LAX 20 hours later with my parents and noted how clean and blue and big the Los Angeles sky was.

The ensuing weeks found, in fact still finds, me on the outside looking in. Or I feel that way anyways. There were nights in Hong Kong when I thought, Well I'll be back home in a few months and this will all seem like a dream, just a bad dream. But coming back to America has been the dream. I look around and marvel at how strangely people behave here, and how richly everybody is living off the fat of the land. The sky hangs like some kind of ethereal globe above me, so big and so blue. It trips me out being able to see for miles and miles, sometimes until the natural horizon. Most of all, my return to the sterility of American suburbia has cast me into a mental and emotional state of blandness. I had forgotten why I'd left it to begin with, and now I'm back.

There were times I couldn't explain in China, like when I would be in the back of a taxi. I'd sit back and look out at the broken urban landscape scrolling by and suddenly wish very badly, very unexpectedly, to have that car ride go on forever and ever. Or riding a bicycle in the Beijing night, with my friend's friend talking behind me, and me laughing and laughing as if the world had told me some galaxial joke of the planets. And of course, the many lonely nights I spent in my solitary bed in my apartment, strumming my unplugged guitar until I fell asleep with it next to me. Thinking back on those shallow days and hollow nights makes me wonder now. Life used to feel so real to me, so meaningful. For 18 years, I had been told, and had believed, the mantra that getting into a good college would be the solution to everything. Unfortunately, college didn't turn out quite the way I expected, and I learned that growing older only increases your problems, and that there is almost never a simple, absolute solution to it all. No teachers with the solution manual would ever be there again to call my mother or answer my questions in class the next morning.

I've tried to explain all of this to almost everybody I know. Yet somehow, I've never been satisfied with any of them. How does one explain life? As trite as that sounds, it is the only way I can say it. How does one explain that there is no absolute answer or side, there is no black and white? How do I describe the sensation I had, which began at Berkeley, that nobody will ever look out for you and that the world is an enormous place filled with tremendous knowledge and profound beauty and evil, and despair so deep as to extinguish hope - all balled up in a whirling maelstrom filled with wayward souls and uncaring faces? I say all this now, and I think it sounds rather melodramatic. It's not really the way I feel, honestly. Coupled with the realization that nobody cares is the discovery that the ones who matter do care more than enough to make up for the rest of the void. It's just what you make of it. Ayn Rand had an idea I came across when reading *The Fountainhead*, that a person's work is what gives his or her life the greatest meaning. I couldn't get my mind around that idea at first, but it seems to me now that this strange time in my life is the forge from which my soul and destiny will be wrought. I feel that what I really want to do with my time is beginning to take shape in my mind. Meanwhile, it would be a great injustice to the work I'd put into science to abandon it entirely. Just as I was never a pure, single minded scientist, neither am I an artist without any interest in the mathematics of the physical, natural world around me. The ability to compromise, one of man's greatest characteristics in my own opinion, serves me well now in planning for future days, constructing a practical support system for my lofty dreams. I think what I've gotten used to is suffering, the way I defined it as a child. Now I think of it as necessary work. When applied toward a goal close to my heart and soul, its bitterness turns sweet and lends meaning to these hours that will inexorably slide by, regardless of how I spend them.

So I've decided to spend them well. There are moments when I still feel lost, and despair over where it's all going for me. But then those strange scenes scroll across my mind, where the eerie cities rear out of the Chinese dirt like broken teeth mired in smog and dust... It's all dust, everything, we all end up as dust. These words float up out of the recesses of this mind that is at once soothingly familiar and strangely mysterious to me. Yes, I think. It will all be okay, somehow, somewhere. Everybody has dreams, some may even come to see them for what they are in their minds, and fewer still come to sculpt them into reality. Through it all, I've barely started to see these dreams of mine, which begin to echo back everything my soul had always known. But someday I will be able to paint them and give them shape and form and color. It will take work, and it will take time, and it will most likely take pain. What lays between here and there is unknown, but I strive to forge ceaselessly on toward that distant shore, borne by tides heavy with experience, tainted by memory.

Calendar of Events for Pasadena

January 2006

- 6 Unofficial Projects 8-11 a.m
12-3 p.m.
- 20 Unofficial Projects 8-11 a.m
12-3 p.m.

February 2006

- 3 Unofficial Projects 8-11 a.m
12-3 p.m.
- 17 Presentation Day 10 am-3pm
- 20 President's Day open

March 2006

- 3 Unofficial Projects 8-11 a.m
12-3 p.m.

- 11 Daylight Savings. Move clock forward one hour.
- 17 Unofficial Projects 8-11 a.m
12-3 p.m.
- 31 Unofficial Projects 8-11 a.m
12-3 p.m.

April 2006

- 8 Easter, Jisan Closed
- 14 Unofficial Projects 8-11 a.m
12-3 p.m.
- 28 Unofficial Projects 8-11 a.m
12-3 p.m.

Calendar of Events for Fullerton

January 2006

- 13 Unofficial Projects 8-11 a.m
12-3 p.m.
- 27 Unofficial Projects 8-11 a.m
12-3 p.m.

February 2006

- 10 Unofficial Projects 8-11 a.m
12-3 p.m.
- 20 President's Day open
- 24 Unofficial Projects 8-11 a.m
12-3 p.m.

March 2006

- 10 Unofficial Projects 8-11 a.m
12-3 p.m.
- 11 Daylight Savings. Move clock forward one hour
- 24 Unofficial Projects 8-11 a.m
12-3 p.m.

April 2006

- 7 Unofficial Projects 8-11 a.m
12-3 p.m.
- 8 Easter, Jisan Closed
- 21 Unofficial Projects 8-11 a.m
12-3 p.m.