



BRAINMATTERS

Spring 2002

Does Great Architecture
Foster Great Science?

Leon Jaroff Speaks Out

Cullmans Endow Senior Fellowships



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San Diego Design & Production**A Message from the Founder and Director**

The architecture of The Neurosciences Institute has many remarkable qualities, but in my view the most unique is that it combines simplicity and complexity in a manner not unlike a beautiful piece of classical music. Ten years ago, however, we had no symphony, only a few random notes: a wonderful piece of land across North Torrey Pines Road from The Scripps Research Institute and a good idea of what we wanted in the new facility.

I knew enough about architecture to know we needed help. Great architecture, in my limited parochial view, is the conversion of a profoundly felt, if sometimes vague, notion into a clear, visual image. Our first step to achieving that goal was to appoint an architecture committee that included Hank Walter (chairman), Sue Edwards (vice chairman), Susan Borden, Arnold La Guardia, Judith Morgan, Bill Nelson and me. That gave us four community representatives from La Jolla and three from the Institute, all of whom, except me, had extensive experience in commissioning architects. Sue and Judith, for example, had been involved in the process that resulted in the fine present design of the La Jolla Museum of Contemporary Art.

The consensus of the committee was that we should not hire one of the world's architectural "stars," but instead search for a talented architect who was not yet famous but on a rising curve. The reason was practical: The more luminous the name, the more likely the project would be delegated by the master to an associate.

We found exactly what we were looking for in Tod Williams and Billie Tsien from New York City. Tod has a wonderful romantic feel, while Billie is fantastically precise and has a marvelous sense of texture. They complement each other in a way that makes them a highly creative unit.

For us, they served as gifted composers of a work that continues to have meaning and give pleasure. They converted our wishes into a crisp and resonant artistic vision that was extraordinarily simple in one sense, yet also much like a musical fugue in another. Their genius lies in taking something almost metaphorically vague and transforming it into a set of geometric patterns and lines that have beautiful spatial and temporal precision that words and descriptions cannot really convey.

The resulting structure has provided a richness that enables me to see endless new things every time I walk across the campus. At night, there is an other-worldly feel as the light filters from the building and the whole scene looks as if it were transplanted from outer space.

While the architecture, then, is brilliant, one might ask if it serves our purposes logically and scientifically. I can say it does on every level.

I have been asked many times if I believe that great architecture can produce great science. My immediate answer is always: It can't hurt. People are often amused by such a terse and seemingly flip response, but it actually conveys much of the truth of the matter. Some of the world's foremost scientific discoveries have been accomplished in quite mundane, if not dreary, surroundings. Likewise, there are facilities with spectacular architecture in which little of note has been produced.

When you consider the factors that result in good science—depth of knowledge, individual capabilities and drive, and always the element of chance—it is not out of the question to believe that working in a stimulating environment might well have a positive effect on morale, thereby enhancing creativity and the potential for achievement.

This is, in fact, what I hear from a number of our scientists. They provide the final test of this belief and you will read some of their comments on the architecture in the pages that follow.

I do know for certain that like a great piece of music, the wonderful architecture of The Neurosciences Institute has a timeless quality that will continue to inspire and delight staff and visitors alike for many years into the 21st Century.

Gerald M. Edelman, M.D., Ph.D.

Does Great Architecture Foster Great Science?

Researchers at The Neurosciences Institute Find Inspiration in a Unique Working Environment

"There is an openness to the design which makes it comfortable to move between labs. I don't feel as isolated from what others are doing around me, and I'm able to confer easily with my colleagues on my research."

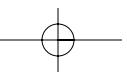
—G. Anthony Reina, M.D.
Postdoctoral Fellow
Experimental Neurobiology

The question of architecture's effect on the human mind and soul has been debated for centuries. More recently, sociologists and psychologists have attempted to measure the impact of structures that form our physical environment. Yet hard evidence of specific cause and effect remains elusive.

Which makes it all the more interesting that the remarkable architecture of The Neurosciences Institute appears to be achieving the very effect sought by Institute Founder and Director Gerald M. Edelman, M.D., Ph.D., when he joined forces with architects Tod Williams and Billie Tsien to build a scientific monastery in La Jolla in the early 1990s.

Their unique collaboration resulted in some of the world's finest architecture, but more importantly created an almost magical environment that the Institute's scientists themselves believe is conducive to scientific inquiry and advancement.

Postdoctoral Fellow Edward W. Keefer, Ph.D., expressed the sentiment of a number of scientists when he noted the connection between the physical surroundings and the mission of the Institute.



"The structures are a physical reminder of the unique scientific goals of the Institute and affirm in tangible form the distinctive vision necessary for eliciting the free expression of scientific endeavor possible here."

—Edward W. Keefer, Ph.D.
Postdoctoral Fellow
Experimental Neurobiology

"The structures are a physical reminder of the unique scientific goals of the Institute and affirm in tangible form the distinctive vision necessary for eliciting the free expression of scientific endeavor possible here," Keefer says.

Another scientist, Postdoctoral Fellow Anthony Reina, M.D., is even more specific, believing the architecture enhances his collaboration with fellow researchers.

"There is an openness to the design which makes it comfortable to move between labs," Reina says. "I don't feel as isolated from what others are doing around me, and I'm able to confer easily with my colleagues on my research."

Equally powerful is the effect the unusual architecture has on creativity and the drive for scientific discovery.

"This is a place that is always interesting to look at, and the circuitous routes one must take to get from one building to another assure that we will see unique perspectives whenever we go anywhere," says Cullman Senior Fellow Ralph J. Greenspan, Ph.D. "I believe this has a healthy, stimulating effect that reinforces our general goal of thinking about things in new and different ways."

The feelings of the scientists are gratifying to Williams and Tsien, the award-winning architects who are based in New York City.

"We had hoped our design would inspire the scientists, but there is never a guarantee," Williams says. "But I was optimistic we would see the results they report. I believe that great architecture makes you feel more alive and that if an environment is stimulating and positive, it can enhance any activity, including science."

The architects give most of the credit to Edelman for the buildings' quality—and qualities.

"Dr. Edelman had a very clear idea of the kind of scientific community he wanted, but no concrete vision of how that would manifest itself architecturally," Tsien says.

"What made him an exceptional client was that he gave us the same special kind of freedom he gives his researchers," she adds. "The trust and confidence he has in their scientific skills he had in us architecturally. That challenged and inspired us to our best work ever."

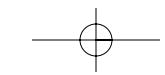
Exactly how did Williams and Tsien achieve Edelman's vision? It started with Edelman's outlining the basic facilities the building would need to address: laboratories, offices for theoretical work, computer resources, conference and meeting spaces,



"This is a place that is always interesting to look at, and the circuitous routes one must take to get from one building to another assure that we will see unique perspectives whenever we go anywhere. I believe this has a healthy, stimulating effect that reinforces our general goal of thinking about things in new and different ways."

—Ralph J. Greenspan, Ph.D.
Dorothy and Lewis B. Cullman Senior Fellow
Experimental Neurobiology





"Einstein said, 'I want to know God's thoughts...the rest are details.'

Conversely, theologian John Wesley believed that scientific inquiry and reason lead to a better understanding of God. In these regards, I love the idea of this institute as a scientific monastery reflected in its architecture, with its hilltop vantage point and spacious courtyard. I want to see the big picture in computational neuroscience...the rest are details."

—Jeffrey L. McKinstry, Ph.D.
Postdoctoral Fellow
Theoretical Neurobiology

and finally a scientific auditorium that would also serve as a world-class concert hall.

"I told Tod and Billie that I did not want something monumental like The Salk Institute up the road," Edelman recalls. "I did say I would like every view to be either beautiful or geometrically interesting, and they began to light up."

"Three weeks later they came back with a preliminary sketch which was quite surprising and pleasing because it wasn't one building but three buildings, and that had never crossed my mind," Edelman adds.

The architect's design included a Theory and Conference Center, Laboratory Building, and Auditorium with walkways and courtyards all connected and unified by a central plaza that fosters both thoughtful reflection and creative scientific interchange among the Institute's diverse population of resident and visiting scientists.

Completed in 1995, the Institute's architecture has received accolades and awards from around the world, including a national award from the American Institute of Architects.

No less an authority than *Architecture* magazine called it a "serene cloister that supports brain research with remarkable architecture that fuses intellect and intuition."

The magazine praised the architects for the many unique touches they included in the design:

"There is no way of experiencing the entire precinct; instead, portions of the buildings are revealed from walkways, balconies, staircases and ramps descending into a central courtyard."

"Each structure is segmented into distinctive parts with their own formal logic. One element may assume several functions: a window doubles as a wall, then becomes a roof parapet and a guardrail along a terrace. Different materials are overlapped to conceal and reveal; the same material is finished in alternative ways, polished, honed, or sandblasted to highlight its mutable properties."

"Like the brain, the architecture of The Neurosciences Institute constantly shifts according to individual perception and patterns of use."

Praise of the Institute notwithstanding, the architecture's most important accomplishment remains the atmosphere it creates for those who seek to solve the mysteries of the brain.

"Looking at the Institute today, it seems very much a place infused with a spirit of serenity, clarity and optimism," Tsien says. "Out of that comes an energy that stimulates the scientific mind to know and look and grow with the world around them." ☈





Cullmans Endow Senior Fellowships



(Above) Cullman Senior Fellows Joseph Gally (left), and Ralph Greenspan. Gally earned his doctorate from New York's Rockefeller University in 1964 and has been affiliated with The Neurosciences Institute since 1987 when it was also still located at Rockefeller University. Greenspan received his Ph.D. in biology in 1979 from Brandeis University in Massachusetts. After serving on the faculties of Princeton and New York Universities and the Roche Institute of Molecular Biology, in 1997 he moved to San Diego to join the Institute.

(Above right) At a reception in New York City on April 11, Institute board members and friends honored Dorothy and Lewis Cullman for their donation of \$2.24 million to establish the Institute's first two endowed Senior Fellowships. Seated, from left, are Brooke Astor, whose initial financial contributions helped to establish the Institute 21 years ago, and Dorothy Cullman. Standing, from left, are Lewis Cullman, Joseph Gally, Ralph Greenspan, and Gerald Edelman.

Dorothy and Lewis B. Cullman have repeated one of the most noble gestures in the civilized world and they have simultaneously created a milestone in the life of The Neurosciences Institute. With their endowment of the first two Cullman Senior Fellows, they have taken a major step forward in solidifying the foundation for the kind of far-sighted breakthrough research that is the Institute's mission. Lewis Cullman has been a member of the Institute's governing board since 1996 and its vice chairman since 1998.

"Despite the many successes of contemporary biomedical research, the short-term mindset of most research programs leaves many of the deep problems in biology untouched," Lewis Cullman said. "In contrast, The Neurosciences Institute fosters an environment that is conducive to tackling the fundamental questions in brain science over whatever time period is required to solve them."

The Cullman Fellow endowments help make that possible by providing long-term financial support for two of the Institute's most experienced Senior Fellows. The first two

Cullman Senior Fellows are Joseph A. Gally, Ph.D., and Ralph J. Greenspan, Ph.D., representing the two dimensions of The Neurosciences Institute's research program: theory and experiment, respectively.

Through his comprehensive and incisive sifting of a wide range of findings in contemporary neuroscience, Gally has evoked some of the most foresighted hypotheses in neuroscience... and been proven correct. His major contributions include:

- Advancing the principle that "neurons that fire together wire together," providing a framework for understanding how the detailed anatomy of the brain forms in response to experiences.
- Proposing the role of the small gaseous molecule nitric oxide as a short-range signal between neurons, setting the stage for what has become a major research arena regarding the ability of nerve cells to modify each others' activities rapidly in a particular locale.
- Delineating the role of "degeneracy" (which is the ability of structurally different biological systems to accomplish the same task), a fundamental principle that gives brains their resiliency, flexibility and versatility.

Greenspan and his colleagues have made important discoveries about the influence of genes on behavior, as studied in the fruit fly *Drosophila*. His major contributions include:

- Identifying brain regions underlying an "innate" behavior, advancing the scientific picture of how various parts of the brain cooperate to produce behavior.
- Identifying genes that vary in nature to produce behavioral differences, advancing the picture of how various genes cooperate to influence behavior.
- With several colleagues at the Institute, demonstrating a sleep-like state in *Drosophila* and defining gene network interactions, thus allowing the power of fly genetic analysis to be brought to bear on the unsolved problem of why we sleep.

With the assurances offered by their Cullman Fellowships, Gally and Greenspan anticipate taking their work into new, unexplored areas. Gally is currently focused on the question of how nerve cells regulate the number of contacts they make with other nerve cells, a problem that is central to how the cells carry out their signaling roles. Greenspan is devising strategies to analyze, on a broader scale, the network interactions among genes and among parts of the brain, an approach that is essential for achieving an overall picture of how the brain works to produce behavior. ☐

HOW ENDOWMENTS WORK

An endowment is a permanent accumulation of funds invested by a not-for-profit organization so that only a fixed percentage of the endowment's market value (including its earnings), appraised annually, can be used to support its mission or a purpose specified by the donor. Because the principal is not spent and a portion of the income is reinvested, an endowment lasts forever. A named endowment associates the donor with an institution and its work in perpetuity.

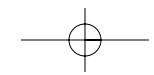
One of the earliest forms of endowment was the endowed faculty position, which originated in medieval Europe. An early faculty patron in England, Lady Margaret Beaufort, mother of Henry VII, established a professorship in theology at Cambridge University in 1502. The Lady Margaret's Professorship of Divinity—once held by the great Renaissance humanist Erasmus—continues to this day at Cambridge, 500 years later.

Beaufort, Cullman...by their deeds we know them.

THE CULLMAN CHALLENGE

In July 2000, the Cullmans issued a challenge to trustees of The Neurosciences Institute and other donors to generate a total of \$25 million in support of the Institute's \$100 million fundraising campaign. The Cullmans' pledge of \$10 million is contingent on the Institute's receiving \$15 million from its trustees and other private sources by December 31, 2005.

As their first installment on their pledge, the Cullmans made a matching gift of \$2.24 million after the Institute received \$3.35 million in private contributions as of the end of 2001. The Cullmans' gift was applied toward the establishment of the two Senior Fellowships held by Gally and Greenspan. The Neurosciences Institute must obtain a minimum of \$3 million annually from its trustees and other private sources to qualify for \$2 million or more each year from the five-year Cullman Challenge.



Trustee Profile: Leon Jaroff

"The kind of pure research and brilliant science practiced at the Institute, unhampered by the bureaucratic rules and restrictions in place at so many other institutions, is just what's needed to unravel the mysteries of the brain."



Leon Jaroff Speaks Out

In the verdant garden of the world's scientific and medical delights, there is Leon Jaroff, a virtual butterfly...in tennis shoes. Since 1951, first with *Life* magazine, next—and still—with *Time* magazine, and during a major endeavor in between as the founder and first managing editor of *Discover* magazine, Jaroff has hovered over and savored the work of outstanding scientists and medical researchers as they seek to unfold the mysteries of the universe, the Earth and its inhabitants.

In the process, and between tennis matches, he has written and edited 44 *Time* magazine cover stories, many of them prize winners, on such varied subjects as black holes, prostate cancer, the brain, viruses, the Apollo Project, allergies and the origins of man. Jaroff is also the author of *The New Genetics* (Whittle Communications, 1991), which described the birth and objectives of the Human Genome Project and predicted its impact on medicine. Since 1982, when he wrote his first *Discover* article on the threat that errant asteroids and comets pose to the Earth, he has returned to the subject frequently, mostly in *Time* articles, urging that funding be increased for the astronomers who seek out these dangerous intruders. For his efforts he has had a five-mile-wide asteroid (7829 Jaroff) named in his honor. "Like me," he says, "it poses no immediate threat to the Earth."



But the news that Jaroff delivers is not exclusively awesome or fascinating. He also exposes and pummels the charlatans of medicine and science. "I love tennis, but quack-busting is my passion and avocation," he says. "Since all too many Americans are scientifically illiterate, it's easy for these frauds to take advantage of them and, in many cases, to cause harm."

Among his most recognized targets is the spoon-bending "psychic," Uri Geller, who has succeeded in bamboozling other journalists since the early 1970s, even though Jaroff first exposed him in *Time*. Frequent objects of Jaroff's inquisitiveness are bastions of complementary and alternative medicines. "Thus far, these organizations have failed to validate—or even more significantly, failed to invalidate—any of the dubious portions and practices they investigate." Other subjects that have endured the Jaroff treatment include UFOs, psychic research, remote viewing, and such forms of practice as homeopathy and therapeutic touch.

While not a practicing scientist himself, Jaroff makes whatever contributions he can to science. Like thousands

of other Americans, for example, he participates in astronomer Frank Drake's Search for Extraterrestrial Intelligence (SETI) program by allowing his personal computer to be used remotely during down time. That way, it joins other computers in helping to sift through the vast amount of radio "noise" from space, looking for an obviously artificial signal that would confirm the existence of intelligent life out there.

Jaroff already rejoices in intelligent life at The Neurosciences Institute and has enthusiastically served on its board since 1981. "The kind of pure research and brilliant science practiced at the Institute, unhampered by the bureaucratic rules and restrictions in place at so many other institutions," he says, "is just what's needed to unravel the mysteries of the brain."

Jaroff is married to Mary Kay Jaroff with whom he makes his home in East Hampton, New York. A graduate of the University of Michigan, he holds degrees in electrical engineering and math. Jaroff is a director of The Rogosin Institute and co-chairman of the Board for Student Publications at the University of Michigan. ☐

Double Lives...

SCIENTISTS SEEK BREAKTHROUGHS IN THE LAB WHILE PURSUING OLYMPIC DREAMS ON THE TRACK

Lindsay Taylor and Mike Kuoppamaki are attempting the ultimate in mind and body: as scientists, they're trying to solve the mysteries of the brain; as world-class athletes, they're striving to reach the Olympics in two of the most difficult and challenging events in track and field.

Taylor and Kuoppamaki spend about half of their time as researchers at The Neurosciences Institute, the other half in intensive training at the track at UCSD. Here's a closer look at two remarkable individuals.

Mike Kuoppamaki

BIRTHPLACE:
Garberville, California, 1975

EDUCATION:
B.S., University of California Davis

HOBBIES:
When I need a break from studying the brain, I take a quick jog over to UCSD where I'm training for the Olympics in the decathlon. This event is a two-day ordeal consisting of the 100-meter dash, long jump, shot put, high jump, 400-meter dash, 110 high hurdles, discus, pole vault, javelin and 1,500-meter run. I started training for the decathlon when I entered

U.C. Davis in 1993. Since then I have progressed quickly and hope to continue to do so up until 2004 when the Olympics will be held in Athens, Greece. The last two years I made *Track and Field*'s top 40 ranking in the U.S., and now under the guidance of Coach Joaquim Cruz (Brazil's 800-meter gold medalist) I hope to move up much higher in the ranking. During my one-month vacation from track each year, I also enjoy surfing, camping and sailing.



WHY ARE YOU INTERESTED IN STUDYING THE BRAIN?

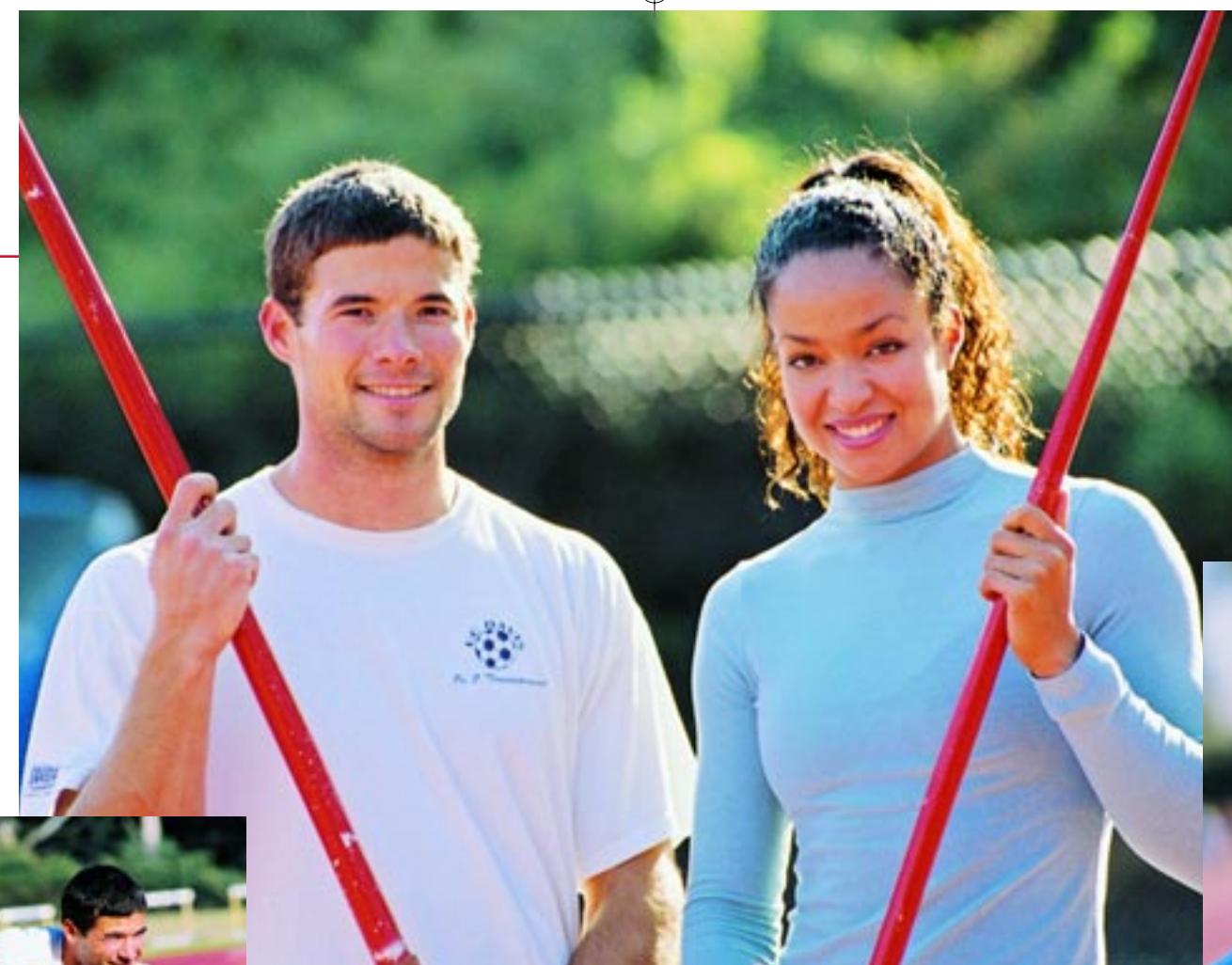
I have always been fascinated by the brain's ability to make a once-complicated task simple. For example, it may have taken you weeks to learn how to ride a bike, including balancing, pedaling, steering and, of course, braking. But once you finally got it, it was simple and you have it forever. This improvement in skill level with practice is what fuels my interest in the brain.

WHAT ARE YOU RESEARCHING AT THE NEUROSCIENCES INSTITUTE?

How the brain learns complex muscle-motor tasks with training, and how the brain uses directional cues for spatial navigation.

WHAT DO YOU HOPE TO ACHIEVE AT THE NEUROSCIENCES INSTITUTE?

I hope to achieve a better understanding of multiple unit recordings of brain and muscle activity during various motor tasks to get a better feeling for how training improves skill level. I also feel that the experiences and knowledge that I am gaining at The Neurosciences Institute will greatly benefit my future academic career.



Lindsay A. Taylor

BIRTHPLACE:
St. Louis, Missouri, 1979

EDUCATION:
Sc.B., Brown University

HOBBIES:
I have a secondary career as an athlete and I'm currently training for the 2004 Olympics in the heptathlon which includes the 100-meter hurdles, high jump, shot put, 200-meter dash, long jump, javelin and 800-meter run. The women's decathlon (which adds the 100-meter dash, discus and 1,500-meter run), will become a new event in the U.S. this year and at the Olympics in 2008. I want to set the American record in the decathlon when it is contested in June. I've represented the U.S. twice in international competition and last year was one of only two Americans to break the 4,000-point barrier in the pentathlon, ranking me 29th in the world. Under my new coach, Rahn Sheffield, I hope to reach new levels in my athletic career. I also enjoy painting, hiking, swimming and surfing.

The Neurosciences Institute Library Roundtable

February 4, 2002 Roundtable:

"Once More With Feeling: the Return of the Science of Emotion" by Antonio R. Damasio, M.D., Ph.D.



Until 10 years ago, scientists largely neglected and scoffed at the roles and values of emotions and feelings as a part of the human ability to reason. Fortunately, times have changed, declared Antonio R. Damasio, M.D., Ph.D., at The Neurosciences Institute's Library Roundtable on February 4. Indeed, the significant news from his presentation is that collections of chemicals and neurons in the human brain produce emotional patterns that have an important regulatory role in the reasoning process.

"Emotions are the top of the top level of what regulates our lives and helps us cope with what confronts us," in everything from pleasure to danger, Damasio said. "And, emotions are innate (factory installed at birth), not things that are learned."

He explained, too, that current research shows, that while the expression of emotions is very visible and common across different cultures, the feelings that accompany them are not. They depend on our own individual consciousness. We feel an emotion when we have mental images arising from the neural patterns that represent the changes in body and brain that form an emotion.

Damasio also engaged some of the 350 guests in a spirited question-and-answer session that included subjects such as the biological bases for the criminal mind and the differences between men and women. Damasio is the Van Allen Professor and head of neurology at the University of Iowa, and an adjunct professor at The Salk Institute. The laboratories Damasio created at Iowa with his wife, Hanna Damasio, are a leading center for the investigation of brain and mind. Damasio is also an Associate of the Neurosciences Research Program, an esteemed international academy of scientists based at The Neurosciences Institute. ☙



Audrey Geisel with Gerald M. Edelman, Institute Founder and Director

Damasio chats with a guest at a reception following his presentation.



Associate Fellow Jeffrey Krichmar, with Institute Trustee Susan Borden (left) and Bennington College President Elizabeth Coleman.



Bill and Barbara McColl (left) with Institute Trustee Peter Ellsworth and wife Doris



The Library Roundtable Series 2001-Present

FEBRUARY 28, 2001

"Time Flies Like an Arrow, but Fruit Flies Like a Banana"*

Ralph J. Greenspan, Ph.D.

Dorothy and Lewis B. Cullman Senior Fellow
in Experimental Neurobiology
The Neurosciences Institute

APRIL 25, 2001

"Music and the Brain"*

Aniruddh D. Patel, Ph.D.

Esther J. Burnham Fellow in Theoretical Neurobiology
The Neurosciences Institute

JUNE 19, 2001

"Creativity, Nobel Prizes, and Major Discoveries"*

J. Rogers Hollingsworth, Ph.D.

Professor of Sociology, History and Industrial Relations
Chairperson, Graduate Program in Comparative History
University of Wisconsin—Madison

NOVEMBER 7, 2001

"How Did Things Ever Get So Darned Complicated?"*

Nicholas C. Spitzer, Ph.D.

Professor and Chairman, Department of Neurobiology
University of California San Diego
Associate, Neurosciences Research Program

FEBRUARY 4, 2002

"Once More With Feeling: The Return of the Science of Emotion"*

Antonio R. Damasio, M.D., Ph.D.

Van Allen Professor and Head
Department of Neurology
University of Iowa College of Medicine
Associate, Neurosciences Research Program

JUNE 2002 – TO BE ANNOUNCED

* CD audio recordings of all Library Roundtable presentations are available upon request by calling Rachel Jonte at (858) 626-2018.

New Board Member

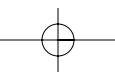


Elisabeth Kenney Ecke

Elisabeth Kenney "Jinx" Ecke is a lifelong advocate for women and youth, who is committed to solving problems at their roots. Her election to the governing board of The Neurosciences Institute is an extension of her efforts, which include helping to elect pro-

choice candidates in the Republican Party. Mrs. Ecke currently serves on the Friends of the Library Board at San Diego State University, and is a founding member of the San Diego Women's Foundation where she is also active on the grant committee. Jinx, who was married for 40 years to Paul Ecke of Ecke Poinsettia Nurseries, has three children and seven grandchildren. When her children were growing up, she taught Sunday school, participated actively in the

Parent Teacher Association, and was a 4-H and Campfire Girl Leader. Later efforts include chairing the Encinitas Committee in 1971 that successfully passed a high school bond election that had failed in four previous elections, but which resulted in the construction of Torrey Pines High School. From 1990-2001, she was active in Planned Parenthood, first with its Action Fund Political Arm, of which she was a founding member, and then for six years on the Planned Parenthood Board. Among Mrs. Ecke's other civic affiliations have been the Rancho Santa Fe Unit of the Children's Hospital Auxiliary, ARCS Foundation, San Diego Zoological Society, the Rancho Santa Fe Country Friends, the Salvation Army Women's Auxiliary and the San Diego State Alumni Association. A native of Bloomington, Indiana, Jinx graduated from San Diego State College (now university) with a B.S. degree in Speech Pathology. ☙



NRP Meeting at The Neurosciences Institute



Dr. Antonio Damasio (left), University of Iowa, and recent speaker for a Library Roundtable presentation (see page 12), joined in conversation with Dr. Gerald Edelman, founder and director of The Neurosciences Institute, Nobel Laureate Francis Crick from The Salk Institute, who is well known for his work on the structure of DNA and on brain theory, and John Gabrieli, a psychologist from Stanford University.



Bruce McNaughton, who works in the departments of psychology and physiology at the University of Arizona, and Cori Bargmann, with the University of California San Francisco, continued a post-NRP presentation discussion in the foyer of the Theory Building at The Neurosciences Institute.



Seymour Benzer (left) specializes in the genetics of fruit fly behavior at the California Institute of Technology, while Ursula Bellugi focuses on cognitive processes in language at The Salk Institute in La Jolla. Ted Bullock, a professor with the University of California San Diego, travels the world studying neurotransmission in marine life and looking for potential applications in humans.

Forty years ago, a small group of scientists convened in Boston for the first time as the new Neurosciences Research Program (NRP) to share ideas about the brain. Representing the many disciplines that comprise the neurosciences, the 36 Associates of this informal college (each of whom serves for a rotating term of seven years) and guests gathered for their 69th formal meeting in March at The Neurosciences Institute. They heard and discussed 17 presentations, including:

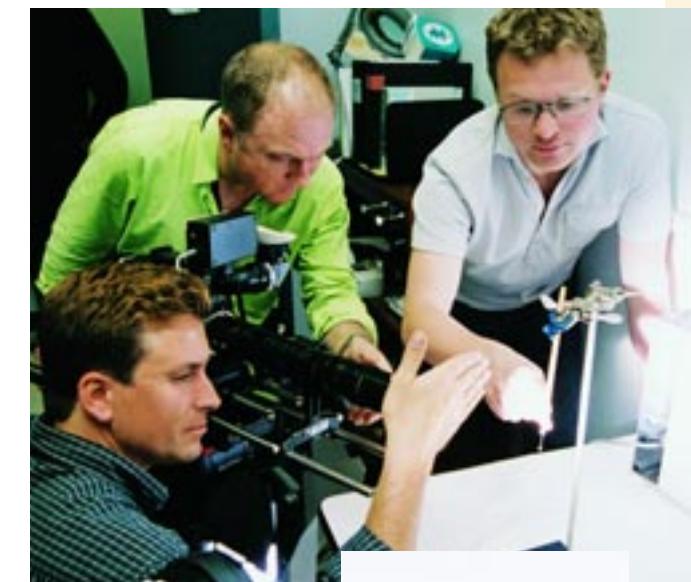
- *The Neural Basis of Spatial Memory*, Alain Berthoz, Collège de France
- *Cognition in a Mini-brain*, Randolph Menzel, Free University of Berlin
- *Cortico-hippocampal Interactions During "Off-line" Memory Reprocessing*, Bruce L. McNaughton, University of Arizona
- *Evaluation of Motor and Cognitive Plans in the Human Brain: Evidence from fMRI*, John Gabrieli, Stanford University
- *The Role of the Amygdala in Social Behavior: What's Fear Got to Do With It?*, David G. Amaral, University of California Davis

The BBC at The Neurosciences Institute

Such a little creature, such a BIG impact!

Drosophila, more commonly known as the fruit fly, is starring in its very own movie produced by the BBC (British Broadcasting Corp.) A crew of four—(from left) camera operators Jayme Roy and Jeremy Pollard, and producer/director Philip Smith, and managing director

Dan Walker (not shown)—spent three days at The Neurosciences Institute in March filming the fruit fly at work in the laboratories with resident Fellows Ralph Greenspan, Paul Shaw, Bruno van Swinderen, and Herman Dierick. So widespread is the use of the fruit fly in contemporary scientific research that the BBC crew also included the University of California at San Francisco and at Berkeley, Caltech, Princeton and Columbia universities, Cold Spring Harbor Laboratory and Exelixis Corp. on its U.S. schedule. Additional filming locations where fruit flies are primary research material include the Universities of Cambridge and Leicester, and University College in London. The fruit fly film, which has yet to be titled, will first show on television in the United Kingdom and central Europe in September before it is broadcast in the United States, probably in early 2003. ☺



Events Calendar 2002

Center For World Music
MAY 5, 12

Taiwanese Opera
MAY 19 & 20

American Harp Society
MAY 26

Mainly Mozart
JUNE 6, 9, 13, 16

Center For World Music
JUNE 8

Athenaeum Beethoven Festival
JULY 7, 14, 21, 28

Center For World Music
JULY 19

American Harp Society
SEPTEMBER 29

American Harp Society (858) 578-3093

Athenaeum (858) 454-5872

Center For World Music (619) 688-0688

Mainly Mozart (619) 239-0100

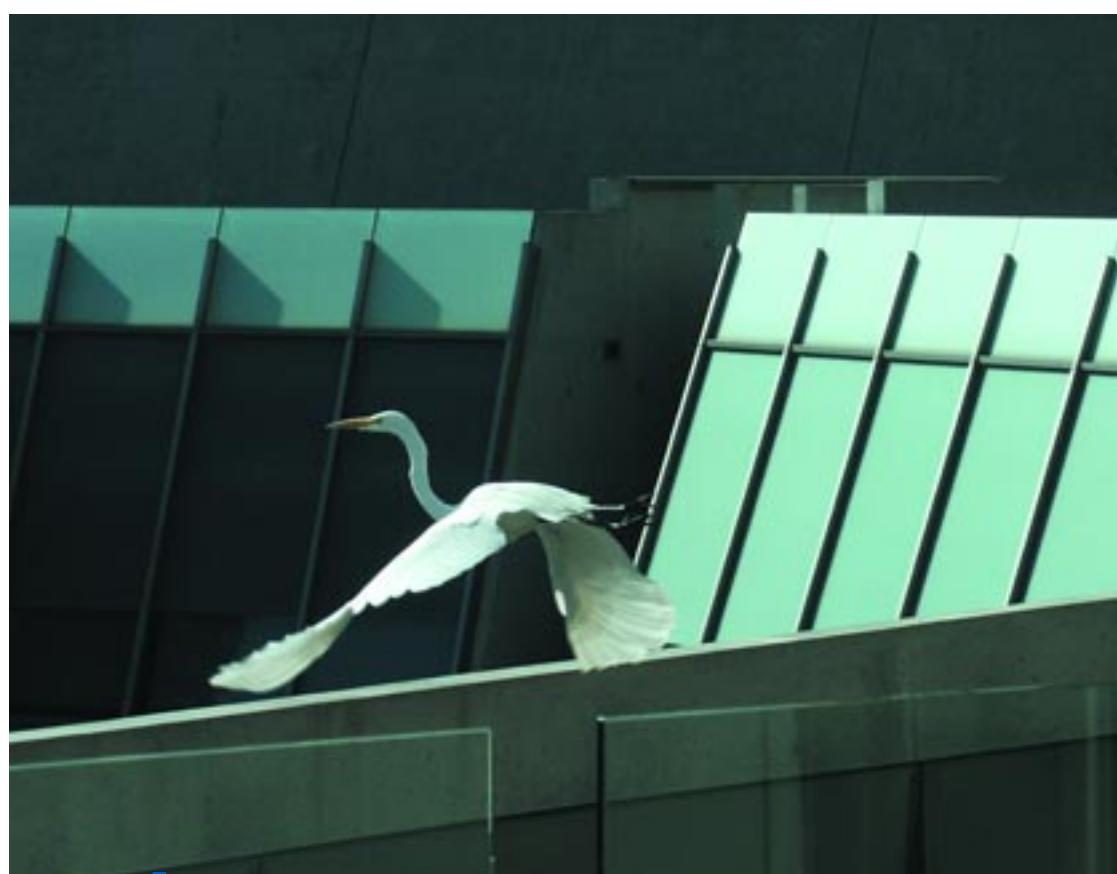
Taiwanese American Foundation (858) 560-8884

The Great Egret — A Most Distinguished Fellow



Photos: W. Einar Gall

You know it's going to be a great day at The Neurosciences Institute when this Great Egret (*Ardea alba*), a most distinguished fellow, flies over the top of the Theory Building and lands on the campus plaza, right in front of the knoll planted with decorative grasses. Bold and graceful, he seems to signal a day of abundant creativity. He stands respectfully and attentively when spoken to...but as soon as the pleasantries are over, gets right to work digging out worms, moles, grubs and other edibles in the knoll. As the day warms, he often takes a short flight around the plaza, then resets himself in the tree and lawn area on the cooler north side of the building. With the sounds of early evening traffic, he takes wing from his "office" and presumably heads home for the evening. He hasn't shared that address with us yet... ☺



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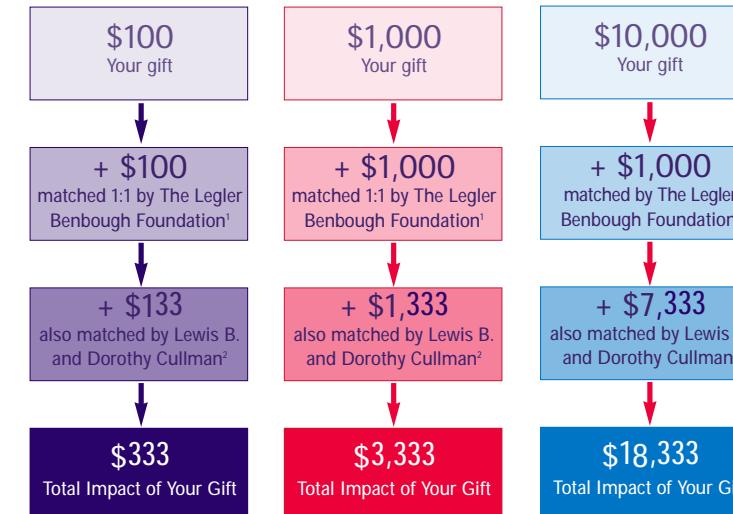
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1 The Legler Benbough Foundation Challenge applies only to San Diego County residents, matching the first \$1,000 of one's donations.

2 Matching funds from Lewis B. and Dorothy Cullman are forthcoming once The Neurosciences Institute has received a total of \$3,000,000 in donations during 2002.



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