



THE CHARLES A. DANA FOUNDATION

1 9 9 8 A N N U A L R E P O R T

**The greatest single challenge in the twenty-first century
is understanding how the human brain works.**

—JAMES D. WATSON, PH.D., AND W MAXWELL COWAN, M.D., PH.D.
1997

**Everything that “the mind” does will ultimately
be explainable in terms of the interactions
among the brain’s components.**

—FLOYD E. BLOOM, M.D.
1987

Nothing vivifies, and nothing kills, like the emotions.

—JOSEPH ROUX
1886

The Charles A. Dana Foundation is a private philanthropic foundation with principal interests in health and education. Charles A. Dana, a New York State legislator, industrialist, and philanthropist, founded what is today the Dana Corporation.

He was president of the Dana Foundation from 1950 to 1966 and actively shaped its programs and principles until his death in 1975. His abiding beliefs were in the capacity and responsibility of individuals to shape and advance their lives and in the singular role of philanthropy in helping them to do so.

Applications to the Charles A. Dana Foundation are reviewed in accordance with the guidelines at the end of this annual report.



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Contents

Directors, Officers, and Administration	2
Chairman's Statement	6
The Brain-Body Institute	11
The Dana Alliance for Brain Initiatives	15
Grants	21
Publications and Media	29
Dana Awards	35
Appropriations and Payments	40
Auditors' Opinion and Financial Statements	51
Grants and Awards Guidelines	59
Publications Available	62

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(as of May 31, 1999)

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Senior Consultant in Education



REPORT ON 1998

CHAIRMAN'S STATEMENT

As our population ages, we must find ways to treat, and ultimately prevent, diseases that disproportionately afflict the elderly. Those illnesses include the three leading causes of death in America today: heart disease, cancer, and stroke. A promising line of attack on all three will be through brain research.

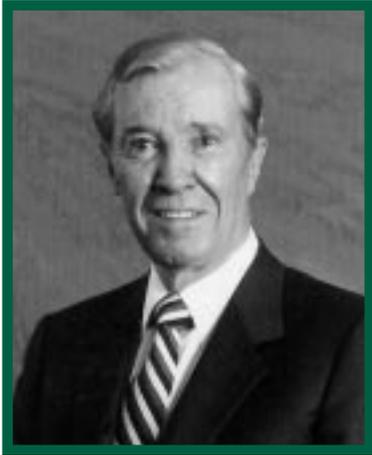
Laymen and physicians have long been persuaded, by observation and common sense, that what happens in the mind can affect the health of the body. Now science is beginning to confirm many of those insights. For example, studies show that in the months after a heart attack a patient's untreated depression enormously increases the risk of another attack and of death. The risks are so high that physicians should always seek to diagnose and consider treating depression in their heart patients; but today this is far from routine. To take another example, stress appears to shorten survival in women with spreading breast cancer. When that stress is eased through participation in a support group, survival is longer.

These are just two confirmations of what common sense has told people for centuries: that the health of the body cannot be separated from the pervasive influence of what occurs in the brain. Folk wisdom is never more than an indication, of course; careful research is always required to demonstrate

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causal connections. Indeed, the processes that mediate the interaction of brain and body may be among the most subtle and complex that scientists must investigate.

In 1998, the Dana Foundation established The Brain-Body Institute to probe the critical interactions between the brain and the onset and progression of heart disease, cancer, and stroke. The Institute's dual role is to foster high-quality research on the inter-connectedness of our brains and bodies, separating fact from fiction, and to ensure that the information gets to the public. (For more information on the Institute and its mission see the section beginning on page 11.)



Foundation Chairman David Mahoney

Grants Fuel Brain-Body Investigations

The Foundation's grant-making in health took its lead in 1998 from the Institute, with initial support for research on the brain's role in heart disease, cancer, and stroke. This became a new emphasis of the Foundation's Clinical Hypotheses in Neuroscience Research Program, for example, which supports investigators with hypotheses that require testing to ascertain if there is enough evidence to go ahead with full-scale research. This year, the program made seven grants of up to \$100,000 each to scientists proposing research in this area.

Another grant initiative looked to the potential of existing longitudinal studies to yield insights into brain-body interaction. Inserting new questions into these studies, which track changes that people undergo over many years, may be a fruitful, economical strategy for getting at the causes and progression of changes in the brain and body. In 1998, two studies received Dana Foundation grants to append research questions about brain-body interaction.

(For more information on grants in health and education see the section beginning on page 21.)

Brain Awareness Week Reaches 15 Million

Brain Awareness Week (BAW), created by the Dana Alliance for Brain Initiatives in 1996, has gained momentum with each passing year and in 1998 became an international event. March 16 began a week in which more than 450 education institutions, advocacy groups, government agencies, and professional associations in the United States and Europe were partners in an international celebration of—and stimulation to—the

progress of brain research. The Dana Alliance and European Dana Alliance for the Brain provided leadership, a clearinghouse for promotional materials, and technical support for the hundreds of partners in this country and abroad.

During BAW, the Alliance's keynote event in Washington, DC, brought together neuroscientists and elected officials for release of the 1998 edition of the annual *Delivering Results: A Progress Report on Brain Research*. The first European Brain Day, March 18, saw successful public activities in 14 countries, including the United Kingdom, Italy, Poland, and Switzerland. At this writing, BAW 1999 has been held, with another substantial increase in partners and activities in the United States and abroad.

(For other activities of the Dana Alliance and European Dana Alliance see the section beginning on page 15.)

Reaching New Audiences

Through The Dana Press, the Foundation publishes and distributes periodicals, books, and reference works that feature accurate, timely information on the brain, brain research, and brain diseases and disorders. Each of these publications serves readers with markedly different contexts of knowledge and interest who are seeking brain information. In 1998, the Press began serving another important audience: issues-oriented readers

interested in how brain research is transforming our understanding of areas from health and education to law and philosophy. For them, The Dana Press launched a new publication in 1998 called *Cerebrum: The Dana Forum on Brain Science*. Published quarterly, *Cerebrum* is a journal of ideas about brain research, interpreting the significance of new discoveries, assessing their impact, and addressing the controversies they may spur.

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Reaching out to still other readers, The Dana Press entered book publishing in 1998 with *The Longevity Strategy: How To Live to 100 Using the Brain-Body Connection*, written by Dr. Richard Restak and me (with my royalties going to the Foundation for charitable uses) and co-published with John Wiley & Sons, Inc. The second book from The Dana

Press, reaching bookstores early in 1999, was *States of Mind: New Discoveries About How Our Brains Make Us Who We Are*. In *States of Mind* readers will find a line-up of brilliant scientists who tell the story of brain research in compelling terms, weaving together material on the emotions, dreaming, addiction, stress, memory, and more. (For additional information on The Dana Press, see the section on page 29 and Publications Available on page 62.)

Broadening Our Reach

Two indispensable channels to a growing audience for brain information are the Foundation's Press Office, now a full-service news bureau on the brain, and the Dana Web site.

In 1998, more than 1,000 journalists received the Press Office's *Dana Brain Daybook* and press releases, just two ways that the Office gives journalists access to information about advances in brain research. The Press Office receives daily calls and E-mail messages from reporters seeking information and can provide them with background and guide them to experts in brain research, including members of the Dana Alliance.

The Foundation's Web site received more than 1,600,000 visits in 1998, an almost 60 percent increase over 1997. The site provides users with information about the Dana Foundation, Dana Alliance, The Dana Press, and Brain Awareness Week and includes the award-winning *Dana BrainWeb: Great Sites for Information on Brain Diseases and Disorders*.

Honoring A Heroic Scientist

Good science is the quest for the truth, a search that has always required courage. This year, the Dana Foundation honored a scientist whose courage led to new hope for treating cancer. Dr. Judah Folkman met skepticism, even hostility, when he put forward his theory that cancerous tumors may create their own supply of blood and so have a vulnerable supply line. Doubted by many colleagues, Dr. Folkman persisted. His work led to creation of the field of angiogenesis—the study of the growth of new blood vessels from surrounding tissue. He went on to identify the first angiogenesis growth factors and inhibitors, which turn on and off the growth of

Good science is the quest for the truth, a search that has always required courage.

blood vessel cells. This work, now widely accepted, holds out hope that tumors can be rendered harmless by cutting off the supply of nutrients that blood vessels bring. At the thirteenth annual Dana Awards dinner, October 26, 1998, Dr. Folkman accepted the Charles A. Dana Distinguished Achievement Award for this and other achievements over more than 30 years as a medical researcher, clinician, and visionary scientist.

That gala event also celebrated the winners of the 1998 Charles A. Dana Awards for Pioneering Achievements in Health and Education. Winners in the health field, James Gusella, Ph.D., and Louis M. Kunkel, Ph.D., shared the award for new strategies that enable scientists to locate and characterize the genes that cause neurological disorders such as Huntington's disease, Alzheimer's disease, and the muscular dystrophies. The winner of the award in education, Anthony J. Alvarado, superintendent of several New York City school districts, was honored for making the professional development of teachers and students an integral strategy in school improvement. (For more information on the Dana Awards see the section beginning on page 35.)

The Directors

The Foundation's directors have had an invaluable role in setting its direction, considering major decisions about the program, and, of course, overseeing expenditures. This year two directors, Edward Rover and William Safire, accepted the additional responsibility of serving as vice chairmen and managing directors of the Foundation. Their expertise will be a welcome source of ideas, guidance, and interface with other organizations as the Foundation's areas of involvement keep growing.

In Conclusion

As indicated in the financial statements that begin on page 41, the Foundation in 1998 made appropriations for programs and grants during the year of \$13 million and payments of \$15 million. The market value of the Foundation's assets on December 31, 1998, was \$306 million, up \$4 million from a year earlier. In the course of its 49-year history, the Foundation has appropriated \$249 million for philanthropic purposes.



David Mahoney
Chairman and Chief Executive Officer

HEART DISEASE, CANCER, STROKE: WHAT IS THE ROLE OF THE BRAIN?

New Brain-Body Institute Launched by Foundation



Scientists at the Dana-Farber Cancer Institute are studying if exercise and meditation through the ancient Chinese practice of Qi-gong can improve immune function in cancer patients.

- Cancer patients are often exhorted to “think positive” or “keep a stiff upper lip” as they battle their disease, as if one’s attitudes or thoughts could have an influence on how the disease progresses, but what is the evidence for this?
- New drug treatments for stroke patients now save lives and limit disability, but surviving patients often suffer from neuropsychiatric problems. How do these problems affect their long-term recovery and functional independence?
- There is now clear evidence that depression and heart disease are linked, with unacceptably high risks to heart attack patients whose depression remains untreated, but how does depression lead to changes in the cardiovascular system?

These three issues, bearing upon the three leading causes of death in America today, share a common denominator: a concern with the interaction between brain and body, between our thoughts and emotions and our health. Building on its grants program in

The Institute will work to foster understanding of the inter-connectedness of our brains and our bodies. Ultimately, through sharing that new knowledge with the public, the Institute may begin to alter how Americans view their health and the medical strategies available to protect it.

brain research and its resources for disseminating information to the public, the Dana Foundation in 1998 launched its newest undertaking, the Brain-Body Institute, to examine the relationship between the brain and heart disease, cancer, and stroke.

A first concern of the Institute will be to separate fact from fiction, clarifying how much or how little there is to the notion that our minds can dramatically affect our health. In a wider sense, the Institute will work to foster understanding of the inter-connectedness of our brains and our bodies. Ultimately, through sharing that new knowledge with the public, the Institute may begin to alter how Americans view their health and the medical strategies available to protect it.

Charting a course through a sea of misinformation towards a scientifically sound program has been the Institute's first order of business. To do this, the Institute focuses on understanding the relationship of physiological changes in brain function to the three diseases—heart, cancer, and stroke—that account for two out of every three deaths in this country. The Institute is looking at how each of these killer diseases is affected by the brain, to what extent the brain is a "common denominator," and if research on the brain can contribute to the prevention or treatment of all three.

To shape the scope and future direction of the program, a group of leading scientists and clinicians will serve as the Institute's Executive Committee, including Roman W. DeSanctis, M.D., David Hamburg, M.D., Guy M. McKhann, M.D., David N. Nathan, M.D., and Fred Plum, M.D. Also included on the Executive Committee are Foundation Board members David Mahoney, Chairman; Edward Rover; and William Safire. A group of scientists working in the area of brain-body science, heart disease, cancer, and stroke has been convened as an Advisory Council

to the Institute. They will serve as scientific resources upon whom the Institute may draw, and will participate in programmatic and press opportunities as they arise.

A critical role for The Brain-Body Institute is the stimulation of high-quality research in the field of brain-body science. In 1998, two grant programs were launched by the Foundation to complement its public information efforts in this area. The first, a new focus for the *Clinical Hypotheses in Neuroscience Research Program*, supports small clinical investigations on brain-body interactions in cancer, stroke, and cardiac disease processes. Inquiries supported through this program may become the building blocks of future large-scale investigations should their hypotheses be validated. One grant cycle took place in 1998, resulting in the award of seven grants totaling \$700,000.

Public outreach is also a critical element of the Brain-Body Institute, and identifying information that may be of importance to patients as well as to physicians will be a top priority.

A second grants program was initiated by the Institute in late 1998 to maximize the Foundation's strategic investment by capitalizing on existing large-scale studies. This program, *Adjunct Clinical Studies*, allows the Foundation to support small studies that are "appended" to existing major research efforts financed by other private and public institutions. Many of these major studies involve years of research, support heavy administrative infrastructures, and involve large study populations. By supporting research programs that tag onto these large studies, the Foundation can pursue brain-body research at a fraction of the normal investment, extending its reach to more investigators and accelerating the pace of inquiry into this important new area of science. (For more information see the section beginning on page 21.)

Public outreach is also a critical element of the Brain-Body Institute, and identifying information that may be of importance to patients as well as to physicians will be a top priority. As these informational "messages" become known, the Foundation is well positioned for their effective distribution to the public, using successful communication outlets already in place within the Foundation and the Dana Alliance for Brain Initiatives. Awareness campaigns, radio and television programs, Internet and press activities, as well as books and publications, are all tools that will be utilized in this effort. ■

THE DANA ALLIANCE CARRIES THE STORY OF BRAIN RESEARCH TO THE PUBLIC

Millions in the United States and Europe Reached in 1998



More than 450 education institutions, advocacy groups, government agencies, and professional organization in the United States and Europe were partners in the 1998 Brain Awareness Week, which took as its slogan, "Just Use It."

A day-long Brain Carnival at New Mexico State University found some students using prism glasses and a ping-pong ball toss to learn about visual perception, while others looked at interactive exhibits on drugs and the brain and guessed the number of gummy brains in a glass head.

This event was one of hundreds in the 1998 Brain Awareness Week, which brought together more than 450 educational institutions, advocacy groups, government agencies, and professional associations in the United States and Europe as partners in an international celebration of the progress and promise of brain research. Brain Awareness Week, created by the Dana Alliance for Brain Initiatives in 1996, has given neuroscientists, educators, and partner organizations a powerful collective forum for reaching the public. As this and other Dana Alliance programs, such as its public television and radio series, public forums, and publications, have raised awareness of the importance of brain research to the health and well-being of present and future generations, membership in

Brain Awareness Week, has given neuroscientists, educators, and partner organizations a powerful collective forum for reaching the public.

the Alliance has also expanded. From the small group of 30 distinguished scientists who came together in 1992, the Dana Alliance and European Dana Alliance for the Brain have grown to almost 200 members in the U.S. and more than 70 members in Europe.

1998 Brain Awareness Week Says “Just Use It” to Millions

The Dana Alliance provides leadership for Brain Awareness Week through its campaign clearinghouse, from which promotional materials, resource information, and technical support are provided to an ever-growing partnership. In 1998, more than 100,000 pieces of literature and campaign materials were distributed, including posters with the new slogan “Just Use It,” and Resource Kits with information, puzzles, games, and suggestions for activities. The Dana Internet site also provided information, event listings, and links to related Web sites.

The Alliance's Brain Awareness Week keynote event in Washington, DC, brought together neuroscientists and elected officials for release of the 1998 edition of the annual *Delivering Results: A Progress Report on Brain Research*. Other programs organized by the Alliance in Washington included a series of information exchanges between Alliance members and Congressional staff, a science policy briefing by Alliance members, and a special reception during which First Lady Hillary Rodham Clinton accepted the 1998 Decade of the Brain award from the Society for Neuroscience.

The first European Brain Day on March 18 included highly successful public activities in 14 countries, including the United Kingdom, Italy, Poland, and Switzerland. Press coverage of U.S. and European events was extensive, reaching approximately 15 million people.

The European Dana Alliance for the Brain

Even as it spearheaded a growing schedule of international events on European Brain Day, the European Dana Alliance for the Brain continues its own unique mission to establish an effective international organization of scientists that can transcend the boundaries of nationality, language, and culture.

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A British Gallup research report commissioned by the European Alliance highlighted a lack of public awareness of the benefits of brain research. To counteract this, the European Alliance initiated a new multilingual newsletter and a Web site, which went on-line during the first quarter of 1999. The European Alliance has also been instrumental in encouraging renewed interest in the European Neuroscience Association, whose 1998 annual meeting in Berlin generated extensive press coverage and attracted more than 4,500 attendees, double the number common in recent years. Public symposia, lectures, receptions, mailings, and a press liaison have also increased the scope of influence of the European Alliance.

Using the Power of Television and Radio

The Dana Alliance uses the power of radio and television to reach an expanding audience with its message.

Exploring Your Brain, the award-winning public television series hosted by veteran newsman Garrick Utley, reached 6,000,000 viewers in 1998. The first three programs—“Memory,” “Men, Women and the Brain,” and “Fear and Anxiety”—are still being aired nationwide. Using print and radio advertising, flyers, and direct mailings, the Alliance promoted these programs to target audiences including the general public, policy makers, and Brain Awareness Week partners and their memberships. A new magazine-style documentary format has been designed for *Exploring Your Brain* and will debut in 1999 in a program focused on stress, trauma, and neuroimaging.

Gray Matters, the Alliance-sponsored public radio series, aired new segments on “Music and the Brain” and “The Teenage Brain” during 1998. “Music and the Brain” aired on more than 140 stations, the most ever for a program in this series. Several earlier programs were re-released during 1998,

following an Alliance promotional mailing to more than 300 national public radio stations. More than 8,000 copies of *Gray Matters* cassettes were purchased by listeners, an unprecedented response according to the producer. The tenth segment in the series, “Sports, Fitness and the Brain,” hosted by Frank Gifford, was scheduled to premiere during Brain Awareness Week, 1999.

Dana Alliance radio and television broadcasts have been honored by both advocacy groups and media associations. “Alcohol, Drugs, and the Brain” was awarded top honors at the 1998 New York Festival’s International Radio Competition and the 1998 Gold CINDY (Cinema in Industry) award for a documentary. The television series received the National Alliance for the Mentally Ill’s 1998 Outstanding Public Education Broadcast Media Award for Science.

Partnerships and Public Programs

The Dana Alliance continues to reach out through nationwide public forums, lecture series, conventions, and exhibitions to help everyone share in our new understanding of the brain.

The Alliance co-sponsored the 1998 Smithsonian Associates lecture series on “The Mind-Brain Connection,” during which

Alliance members talked about the role of human consciousness, “voodoo death,” the fragile power of human memory, and other brain-related topics. The Alliance also participated in the AARP Biennial Convention in Minneapolis and the Living Better Expo in New York, distributing literature and promoting its activities and publications to more than 7,000 attendees. The presence of the Alliance at popular events such as these broadens its reach and increases its credibility as an authoritative source of information on brain research.

On the international front, the Alliance has become a regular presenter at the World Economic Forum in Davos, Switzerland, an annual gathering of world leaders in government, industry, media, and the sciences, who come to together to discuss world politics, trends in business and technology. The organizers added the Dana Alliance and the progress and promise of brain research to their agenda a few years ago. In 1998, the Alliance presented two forums on “Delivering Results on Brain Research: a Look to the Future” and “Brain-Body Interaction” to capacity crowds, as well as hosting a dinner discussion with experts on the latest discoveries in neuroscience.

Publications for Lay and Professional Readers

Dana Alliance publications, written and produced by the Dana Press (see page 29), further the mission of the Alliance by providing valuable information to an increasing number of lay and professional readers.

The Alliance has continued to distribute copies of *Delivering Results*, the 1997 edition of its annual *Progress Report on Brain Research. Reshaping Expectations*, the 1998 edition, was released at a Washington, DC, event in conjunction with Brain Awareness Week, and 38,000 copies were distributed throughout the year.

The Alliance also publishes *Brain Connections*, a regularly updated reference guide to organizations providing information on brain diseases and disorders; *Unlocking the Mysteries*, a general-interest pamphlet introducing neuroscience; and the bi-monthly *Dana Alliance Member News*. In addition, the Alliance continues to make important information easily accessible to the public through the Dana Web site (www.dana.org).

The Alliance's Urgent Mission

Since its inception in 1993, the Dana Alliance has both brought together prominent neuroscientists and engaged in a vigorous program of public education to bridge the gap between what scientists are accomplishing and what the general public understands. One of the Alliance's major achievements has been breaking a traditional pattern of reluctance among scientific researchers to engage the public and impressing them with the urgent need of educating the public about the significance of their work.

The result is a growing public confidence in the progress being made in brain research, but the coming decade will be critically important. A recent 15 percent increase in funding for the National Institutes of Health is only the beginning of what some policy makers believe should be a doubling of funding for the NIH by the year 2002. The Alliance's Washington policy program keeps its members informed of pending legislation and government initiatives via timely correspondence and its bi-weekly E-mail communique "Policy Headlines." It also provides reliable information and material on brain research for Members of Congress and their staffs, as well as for neuroscientists giving testimony before Congress.

In a climate of competing priorities and economic interests, the challenge remains to increase public awareness of the critical role of neuroscience in helping people lead happier, healthier lives. Through its growing public activities, outreach programs, radio and television broadcasts, and encouragement of scientists to speak out on the issues, the Dana Alliance is a leader in articulating the significance of brain research. ■

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1998 HEALTH GRANTS LAUNCH NEW RESEARCH ON BRAIN-BODY INTERACTIONS

Education Grants Focus on Disseminating Innovations



With Foundation support, scientists are looking for clues to how the brain acquires language by comparing brain organization in people with normal hearing and those who are deaf and use American Sign Language. The knowledge could lead to determining the best time to begin using cochlear implants to alleviate difficulty in hearing.

Dr. David Spiegel, a psychiatrist at Stanford University School of Medicine, has pioneered research showing that chronic stress may accelerate the spread of breast cancer. The link seems to be the brain's influence on the release and use of hormones in the body, which can affect tumor growth. In particular, a loss of normal variation in the daily rhythm of one important stress hormone, cortisol, appears to shorten survival time of breast cancer patients. To understand more about how this occurs, Dr. Spiegel and his colleague, Julie Turner-Cobb, a research psychologist, are beginning a study that will compare 50 women with metastatic breast cancer with 50 healthy women to see how their stress levels and hormone regulation may differ. Finding a way to intervene in this process could be a step in controlling tumor growth and prolonging life.

Dr. Spiegel's latest research is supported by the Dana Foundation under a grant initiative started in 1998 to explore the relationship between the brain and heart disease, cancer, and stroke—the country's three leading causes of death. The Foundation also established The Brain-Body Institute in 1998 to stimulate and guide high-quality research—including that supported by the Foundation's own grants—to advance brain-body science. (See story on page 11.)

Two priorities are to improve diagnosis, treatment, and prevention of brain-related diseases and to stimulate public education and scientific exchange about neurological diseases and brain-body interactions.

The grant supporting Dr. Spiegel's work was one of seven made this year under the Foundation's Clinical Hypotheses in Neuroscience Research Program for projects that study brain-body interaction in heart disease, cancer, and stroke. The goal is to stimulate scientists to think about interrelationships of brain and body in ways that may eventually lead to novel strategies for preventing and treating all three major diseases. Other 1998 grant making to advance brain-body research included a new Adjunct Clinical Studies program, which enables investigators to append research questions pertaining to brain-body interaction to existing major clinical

or epidemiological studies. The Clinical Hypotheses program, started by the Foundation in 1994, has also continued to support research that applies powerful new imaging technologies such as Magnetic Resonance Imaging (MRI) to understanding the normal brain and its alterations in neurological diseases and disorders. Seven new imaging grants were awarded during the year, as well as three grants to enable scientists to apply other types of promising new technologies to the investigation of brain disorders and their treatment.

The Clinical Hypotheses grants are just one example of the mission of the Foundation's grant program in health, which is to advance understanding of brain function in human health and disease. Two priorities are to improve diagnosis, treatment, and prevention of brain-related diseases and to stimulate public education and scientific exchange about neurological diseases and brain-body interactions. In 1998, the Foundation awarded almost \$4 million for those purposes. The Foundation's other grant program is in education, where almost \$2.4 million was awarded in 1998 to refine and broaden the reach of education innovations for children from pre-kindergarten through high-school, particularly emphasizing the earliest years; to facilitate collaboration among innovators; and to obtain a better understanding of public attitudes about education.

The grant programs in health and education are presented below, with brief descriptions of 1998 grants and reports on work in progress under earlier grants. (For a list of grants and amounts, see "Summary of Appropriations and Payments in 1998" on page 40.)

Clinical Hypotheses in Neuroscience Research Program

With a rapid timetable from application to funding, the Clinical Hypotheses Program lets investigators quickly test innovative hypotheses. If the results are promising, the scientist has pilot data for consideration of larger-scale funding by other sources. In 1998, the Foundation extended the Clinical Hypotheses program to include investigations of brain-body interaction, and also continued support for clinical application of new brain imaging technologies.

Brain-Body Interaction

The first Request for Proposals (RFP) dealing with brain-body interaction was distributed in 1998 to U.S. medical schools, schools of public health, and other invited institutions. A Foundation scientific advisory committee selected seven of the proposed projects for funding of up to \$100,000 each over periods of up to three years. Two grant cycles are planned for 1999. RFPs are posted on the Foundation's Web site.

The Brain and Heart Disease

- Yale University researchers are using positron emission tomography (PET) and echocardiograms to determine if the exaggerated response to stress experienced by men with coronary artery disease (CAD) also occurs in women with CAD, and if hormone replacement therapy tends to protect the women.
- University of Wisconsin researchers are using FMRI to explore the mechanism that may link negative emotions and cardiovascular disease. This could lead to innovative strategies for identifying and treating people at risk for cardiovascular disease associated with negative emotional states.

- Emory University researchers are studying how causes of ischemic heart disease may differ between depressed and non-depressed adults, and whether these causal factors are affected by antidepressants and electroconvulsive treatment.

The Brain and Cancer

- Washington University researchers are using PET and neuropsychological testing to see if tamoxifen, a drug used to treat breast cancer, contributes to memory loss. More than 60 percent of breast cancer survivors treated with tamoxifen report memory problems.
- As described on page 22, a Stanford University researcher is looking at whether dysfunction in the brain's hippocampus may alter the body's regulation of the stress hormone cortisol, causing shorter survival rates in women with metastatic breast cancer.
- Scientists at Dana-Farber Cancer Institute in Boston are examining possible benefits that Qi-gong, a combination of meditation and exercise, may have beyond those of exercise alone for the function of immune cells, quality of life, and physical status of cancer patients.

The Brain and Stroke

- A University of Iowa researcher is evaluating the effectiveness of treating depression in stroke patients, using repetitive transcranial magnetic stimulation, a non-invasive tool that has antidepressive actions if applied to the left prefrontal brain area.

Imaging

The Clinical Hypotheses program continued to support the application of powerful new brain imaging technologies to study of brain function in health and disease. Since 1994, the Foundation has awarded 33 grants for this purpose, including seven in 1998:

- A Baylor College of Medicine researcher is using a combination of Near Infrared Spectroscopy and cranial ultrasound to determine if low levels of carbon dioxide, and associated impaired blood-flow to the brain occur in premature infants placed on mechanical ventilators, and whether this is related to the incidence of periventricular leukomalacia (PVL), an important cause of developmental problems.
- Georgetown University researchers are using fMRI to explore how the brain is organized to acquire language. They will compare the organization of the brain's auditory and visual systems in people with normal hearing to those who have congenital or acquired deafness and use American Sign Language. These studies, which will characterize how the onset of deafness affects these brain systems, could lead to determining the optimal time to use cochlear implants.
- Researchers at Washington University are using MRI to see if vulnerability to depression is partially inherited by comparing twins where at least one has depression to those without it. Studies will determine if decreases in brain volume in the prefrontal cortical area precede development of clinically significant depression and mania.
- A researcher at Cornell University is asking if Huntington's disease patients have a defect in their mitochondria, the specialized parts of cells involved in energy metabolism, and if this defect can be modified by treatment with creatine. This could have implications for other degenerative diseases, including Alzheimer's and amyotrophic lateral sclerosis (Lou Gehrig's disease).

- A University of California researcher is using fMRI to examine control of hand movement by musicians suffering from focal dystonia, a chronic distortion of the hands associated with repetitive movements. The research could also advance understanding of other repetitive motion disorders such as those in patients with Tourette syndrome.
- A University of Michigan researcher is determining whether MRI can be used to evaluate patient responses to brain tumor therapy by assessing the tumor's volume and blood supply.
- Oregon Health Sciences University researchers are determining if cerebrovascular spinal fluid (CSF) contains markers of brain tissue loss in patients with Alzheimer's disease and if levels of these markers are correlated with brain atrophy, as indicated by MRI. If so, CSF markers could be used, at lower cost, to assess the effects of various therapies on slowing or arresting brain atrophy in Alzheimer's disease.

Brain-Body Adjunct Clinical Studies

In 1998, the Foundation created an Adjunct Clinical Studies Program to add research questions on brain-body interactions to ongoing major clinical trials or epidemiological studies. This year the Foundation gave support to two such investigations. One is a study at Harvard Medical School to ascertain if reduction in heart rate variability may explain why social isolation increases heart disease mortality. Researchers will append this small study to the large federally funded ENRICHHD study on heart disease, depression, and social isolation. In another project, scientists at Brigham & Women's Hospital are using data from the Nurses Health Study to examine the possible relationship between work stress, depression, and risks of cancer of the breast, colon, and lung.

The Dana Consortia in Neuroscience

The Foundation provides long-term funding to enable research centers to form consortia around clinical problems that must be investigated from several perspectives. Four such consortia have been receiving multi-year support for research. A fifth is training scientists to apply brain-imaging techniques to understanding brain functioning in health and disease. In 1998, the Foundation reviewed the progress of the five consortia; highlights are below. (For fuller reports, see the Foundation's Web site, <http://www.dana.org>.)

- **Consortium on Therapy for HIV Dementia**

This Consortium tested three drugs for their potential to delay the onset of HIV-associated dementia, for which about two-thirds of HIV-infected individuals are at risk. Two of the three drugs showed preliminary evidence of safety and potential efficacy, and are now in large scale federally-funded clinical trials.

- **Consortium on the Genetic Basis of Manic-Depressive Illness**

The research by this Consortium confirmed that multiple genes are responsible for at least two-thirds of all manic-depressive illness and narrowed the search for these multiple genes to three chromosomal areas.

- **Consortium on Memory Loss and Aging**

The Consortium created a group of memory tests, the "Dana Battery," to assess the extent of memory loss and effectiveness of interventions. This battery is now the standard used in the field. The Consortium also developed a memory-training intervention that produces a modest, short-lived improvement in a specific memory task, although it does not lead to overall improvement in memory. This intervention now provides the benchmark against which other interventions are assessed.

- **Consortium on Language-Based Learning Disabilities**

Preliminary research by Rutgers University investigators had indicated that children with dyslexia may have a problem with the speed of the brain's processing of speech sounds. A subsequent small study suggested that children with dyslexia who had this brain-timing problem may make important gains in reading levels using a computer-processed learning program developed by two of the Consortium's participating institutions.

- **Consortium on Neuroimaging Leadership Training**

Thus far, 28 fellows from medical faculties throughout the country have been trained to apply advanced neuroimaging techniques to the brain's structure and functioning and to diagnose and treat brain disorders and diseases. Nearly two-thirds have achieved tenure track positions in their institutions.

Education Grants Program

The Education Grants Program fosters the dissemination of innovative strategies that educate and nurture children in public schools, particularly in disadvantaged communities. These strategies are identified through two primary sources. The first is the Dana Awards for Pioneering Achievements in Education, which have been presented annually to outstanding innovators who have significantly transformed education. (See page 35 for more information.) The other source of strategies is the Charles A. Dana Center for Educational Innovation at the University of Texas at Austin. Directed by 1988 Dana Award winner, Philip Uri Treisman, Ph.D., the Center initially received funding in 1992 to further his pioneering work in strengthening mathematics and science education. Over the past several years, the Center has received support to develop promising educational strategies to improve the Texas public education system, and to foster adoption throughout the country of educational innovations developed by the Center and others for pre-kindergarten to college students.

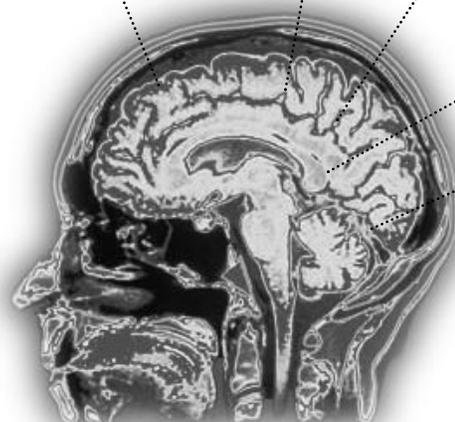
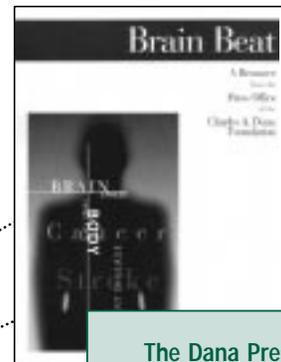
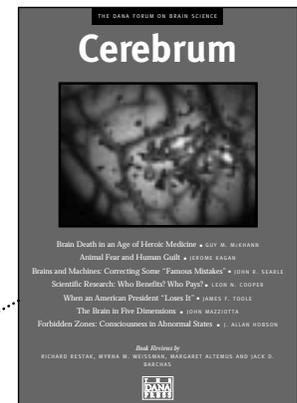
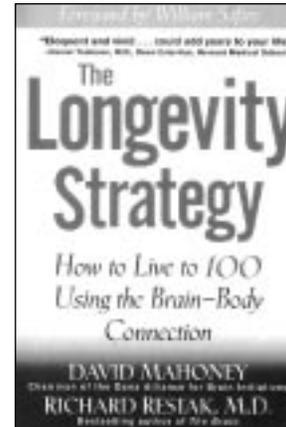
The education grants program fosters the dissemination of innovative strategies that educate and nurture children in public schools, particularly in disadvantaged communities.

In 1998, the Foundation provided support for Public Agenda to gain a better understanding of public attitudes towards the public education system by querying experts and opinion leaders, including elected officials, journalists, and business executives nationwide. In addition, the Foundation supported dissemination of four Dana Award winning innovations:

- *Parents as Teachers*, directed by Mildred Winter, will pilot-test and disseminate a revised curriculum for teaching parenting skills incorporating neuroscience principles.
- *The National Center for Family Literacy*, directed by Sharon Darling, received support to develop a family literacy program evaluation tool kit.
- *Facing History and Ourselves*, directed by Margot Stern Strom, is incorporating lessons about tolerance and civic responsibility into public schools through teacher training and curriculum development.
- *Advancement Via Individual Determination (AVID)*, directed by Mary Catherine Swanson, will take stock of its achievements by publishing a book about AVID's contributions to school reform. ■

AUTHORITATIVE INFORMATION ABOUT THE BRAIN OFFERED BY THE PUBLICATIONS AND MEDIA DIVISION

Readers, Journalists, and Internet Users All Benefit



The Dana Press, Dana Press Office, and Dana Web site all provide authoritative information on the brain, brain disorders, and the progress of brain research.

The world is drowning in information, but authoritative information and high-quality reasoning are as scarce as ever. Consequently, the public faces a growing challenge in attempting to find and use important ideas that can change lives. The Foundation is committed to helping people learn about and evaluate developments in brain research and education. Its Publications and Media Division engages in a vigorous program of print and electronic publications and work with the media. In 1998, more than 1,600,000 visits were made to the Dana Web site—an almost 60 percent increase over 1997. Thousands read Dana Press publications, including its new journal of opinion, *Cerebrum: The Dana Forum on Brain Science*, and its first book, *The Longevity Strategy*; and intensive work with journalists by the Press Office exponentially increased the reach of valuable information on brain research.

The Dana Press Launches New Journal and Publishes Its First Books

In Fall 1998, the Dana Press began publishing a new quarterly journal of opinion, *Cerebrum: The Dana Forum on Brain Science*. The journal is aimed at readers who want to understand how the discoveries of neuroscience are changing the world by changing

The journal is aimed at readers who want to understand how the discoveries of neuroscience are changing the world by changing our ideas about ourselves.

our ideas about ourselves. Because these ideas concern us all, *Cerebrum* is written to be read and understood by non-scientists, scientists in other fields, and brain scientists seeking wider insight into their own field.

Cerebrum exists because the implications of discoveries from brain research are rarely self-evident. It asks: How should we interpret this new information? How is it affecting our lives? What's the other viewpoint—the one that may challenge conventional wisdom? And what's next? For the answers, it looks to the world's top neuroscientists and thinkers in fields from philosophy to physics to the visual arts.

The inaugural issue of *Cerebrum* looked at topics such as brain death in an age of heroic medicine, animal fear and human guilt, and whether neurologists and psychiatrists should have a formal role in declaring a president disabled. In development for 1999

are articles—to name just a few—examining changing ideas about addiction; visual artists as intuitive brain scientists; the brain in love (or lust or infatuation); questions about crime and punishment raised by scans of murderers' brains; our ancient and remarkable olfactory sense; what gender differences in the brain may mean for education; new debates over consciousness—the Holy Grail of neuroscience; challenges to IQ (or what brain scientists call “G”); and the limits to biological psychiatry. In addition, every issue of *Cerebrum* will feature reviews by leading scientists and scholars, who will comment on the importance, accuracy, and readability of new books about the brain and, consistent with *Cerebrum's* editorial mission, also grapple with the broader issues raised by those books.

Published in a 7-by-10-inch format, *Cerebrum* will average 140+ pages per issue, with both color and black and white photographs and illustrations, including brain images. (For further information, see “Publications Available” on page 62 of this *Report*.)

Entering Book Publishing

In March 1998, The Dana Press and John Wiley & Sons, Inc. published *The Longevity Strategy: How to Live to 100 Using the Brain-Body Connection*, by David Mahoney & Richard Restak, M.D. The book was published in English in the United States and the United Kingdom, and in Spanish by Editorial Kairós, S.A. Offers to publish in Japanese and Chinese were also received. The trade paperback edition of *The Longevity Strategy* was scheduled for release in February 1999.

At the end of 1998, the second Dana-Wiley book in the program, *States of Mind: New Discoveries About How Our Brains Make Us Who We Are*, was in production and scheduled for release in February, 1999. *States of Mind* is based on the popular public lecture series co-sponsored by the Dana Alliance and the Smithsonian Associates in Washington, DC. Talks by eight neuroscientists, including five Alliance members, were adapted for the book, which was edited by Roberta Conlan, a former Time-Life Books managing editor. The contributors are Alan Hobson on sleep and dreams, Steven Hyman on genes and the environment, Kay Redfield Jamison on mood disorders, Jerome Kagan on temperament, Eric Kandel on memory, Joseph LeDoux on the emotions, Bruce McEwen on stress and the brain, and Esther Sternberg on the brain and immune system.

Other Dana Press Publications

The subscriber list for the bi-monthly newsletter, *BrainWork*, grew by about 75 percent and approached 18,000 at the end of 1998. Most of the new readers subscribed in response to a year-long promotion in which sample copies were mailed to subscribers of other health newsletters and individuals working in fields, such as fitness and nutrition, where discoveries about the brain are relevant. Each issue of *BrainWork* carries a news column on research findings and three feature articles about recent developments in understanding the brain and treating its disorders.

Subscribers also increased, from 6,000 to 11,000, for *The Brain in the News*, a bi-weekly tabloid newspaper. *The Brain in the News* reprints newspaper and some magazine articles about the brain from around the United States (and occasionally from Canada and England).

The Dana Press also produces and distributes two annual publications for the Dana Alliance for Brain Initiatives—*Brain Connections* and *Delivering Results: A Progress Report on Brain Research*. *Brain Connections* is a guide to more than 200

organizations providing services and information for patients and families dealing with brain and nervous system disorders. The Progress Report reviews the most significant findings of the previous year in brain research. In 1998, about 40,000 copies of the Progress Report and about 75,000 copies of *Brain Connections* were distributed. Finally, the Dana Press also produced for the Dana Alliance *Unlocking the Mysteries of the Brain*, a brochure with an introductory explanation of the importance of brain research.

Dana Press Office Is a Full Service News Bureau on the Brain

By providing a free resource service for reporters seeking background and experts in brain research, and creating timely written materials and a section of the Dana Web site specifically for the press, the Press Office functions as a full-service news bureau that provides high quality information to journalists about the activities of the Foundation and about brain research.

In 1998, more than 1,000 journalists nationwide received the Press Office's *Dana Brain Daybook*, as well as regular press releases. This bi-monthly publication for science and health reporters looks at the latest in brain research, covering topics including genetics, alcohol addiction, anti-depressants,

Alzheimer's disease, and information overload. The *Brain Beat Guide*, an annual publication, looked to the Dana Foundation's newly created Brain-Body Institute for its focus, and provided journalists with detailed reports on stress and immunity, heart disease, cancer, stroke, and the brain.

The Press Office developed two topical briefing papers for reporters covering Brain Awareness Week on areas of study attracting attention within the ranks of brain researchers—one on human motor control, and the other on learning and the brain. In addition, a special publication, *Advances in Brain Research*, furnished reporters with edited versions of talks presented by Dana Alliance members during the release of the annual *Progress Report*.

To facilitate journalists' quick access to the country's leading neuroscientists in every area of brain research, the Press Office issued an interactive *Resource Directory* providing background information on Dana Alliance for Brain Initiatives members, including their specializations. This directory was distributed with an accompanying disk, so that reporters could archive and use the information on their computers.

All sectors of the media found a great deal of brain research that would interest their readers and viewers; the Press Office received daily calls from reporters inquiring about researchers and studies.

In 1998, all sectors of the media found a great deal of brain research that would interest their readers and viewers; the Press Office received daily calls from reporters inquiring about researchers and studies. Inquiries were received from major newspapers and television outlets including *Dateline*, *NBC Nightly News*, *Wall St. Journal*, *WCBS-TV*, *CNN*; *Good Morning America*, *Esquire*, *Life*, and David Kelley Productions in Hollywood. *The Wall Street Journal* and *USA Today* also developed stories based on research highlighted in Press Office publications.

In October, the Press Office conducted publicity for the launch of the new Dana journal, *Cerebrum*. One result was adaptation of the lead article from the first issue as a front-page piece in the *Washington Post* Sunday op-ed section. The Press Office also assisted CNN, *Good Morning America*, *Larry King Weekend*, and KABC in Los Angeles to schedule interviews and develop stories in connection with the first Dana Press book, *The Longevity Strategy*.

1,600,000 Internet Visitors

More than 1,600,000 visitors came to the Dana Web site in 1998, an almost 60 percent increase from the previous year. This site provides users with information on the Dana Foundation, Dana Alliance, Dana Press, and Brain Awareness Week. All publications for the general public are on line, as is the award-winning *Dana BrainWeb*, which recommends validated sites for information on brain diseases and disorders.

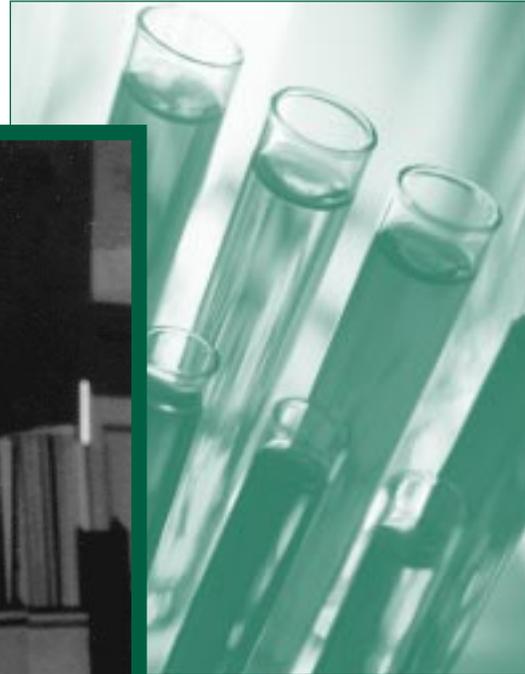
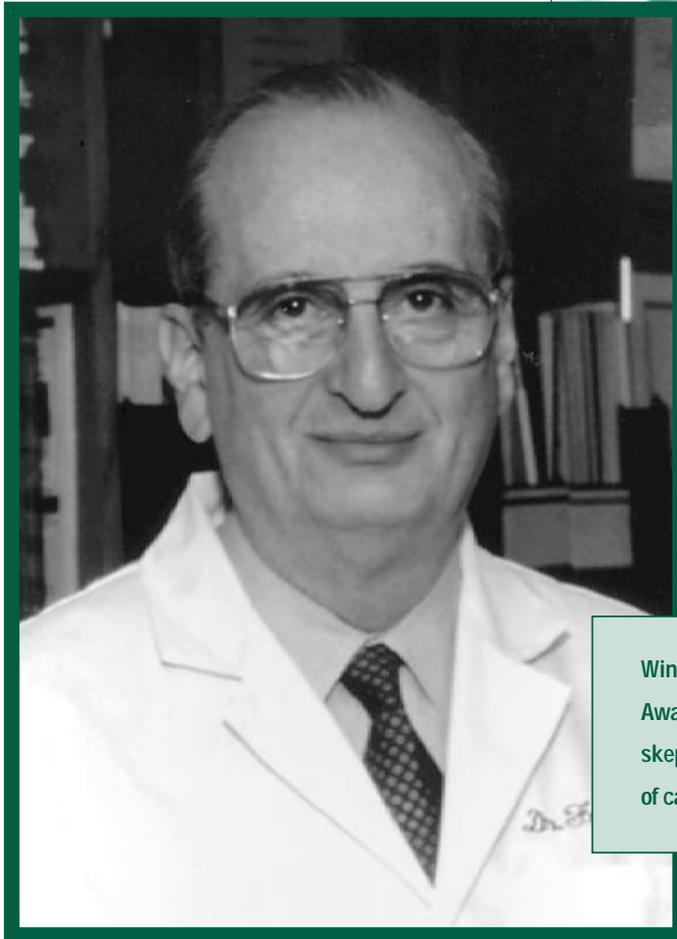
In 1998, a new section for the Dana Press journal *Cerebrum* was added to the Dana Press portion of the site, along with a book section highlighting release of *The Longevity Strategy*. The new material also includes

information for prospective authors and 75 new links in *The Brain in the News* summaries. RealAudio is now available for all 1998 radio programs in the *Gray Matters* series, and transcripts are on-line for the radio shows and the television series, *Exploring Your Brain*. The 1998 Brain Awareness Week section was launched in late winter with opportunities for users to download calendar listings, puzzles, a brain quiz, and logo and poster art. The Grants and Awards sections of the site were completely revised, and more than 10,000 cards publicizing the *Dana BrainWeb* section of the site were distributed.

The Press Office maintains a separate section of the site for journalists who are able to request information through a press information box and read the latest press releases in a "Hot News" section. ■

1998 DANA AWARDS HONOR HEROIC INNOVATORS

Achievements Offer Hope In the Fight Against Cancer,
Genetic Diseases, and Failing Schools



Winner of the 1998 Dana Distinguished Achievement Award, Dr. Judah Folkman fought a long battle against skepticism directed at his new theory about the growth of cancerous tumors.

When Dr. Judah Folkman first developed his theory that cancerous tumors create their own supply of blood, he met skepticism and even hostility. He persisted, forming the field of angiogenesis—study of the growth of new blood vessels from surrounding tissue into growing tissue—and to identify the first angiogenesis growth factors and inhibitors, which turn on and off the growth of blood vessel cells. A tumor that is not continually fed by nutrients coming through the bloodstream cannot grow but remains; instead, a harmless cluster of mutated cells that cannot spread to other organs in the body. While a long road of testing and development lies ahead, Dr. Folkman's discoveries are now offering new hope for the treatment not only of cancer but also of heart disease. They are but the latest achievements in a more than 30 year career as a medical researcher, clinician, and visionary scientist for which Dr. Folkman was honored with the 1998 Charles A. Dana Distinguished Achievement Award.

Dr. Folkman was presented with this Award at the thirteenth annual Dana Awards dinner on October 26, 1998. That gala event also celebrated the winners of the 1998 Charles A. Dana Awards for Pioneering Achievements in Health and Education, James Gusella, Ph.D., Louis M. Kunkel, Ph. D., and Anthony J. Alvarado.

Pioneering Achievement Awards

Dr. Gusella and Dr. Kunkel shared the Award in Health for their invention of strategies that enable scientists to locate and characterize the genes that cause some of our most devastating neurological disorders. Their work has freed researchers and physicians from relying solely on clinical symptoms to understand, diagnose, and develop treatments for diseases such as Huntington's disease, Alzheimer's disease, and Duchenne's muscular dystrophy.

Dr. Gusella created the process of linkage analysis with DNA markers to identify the location on the chromosome of a previously unmapped disease gene and, along with an international team, used this technique to identify the gene for Huntington's disease. His discovery provided a critical impetus to the development of the Human Genome Project and has spurred research by others that has now mapped hundreds of disease genes. Dr. Kunkel has led the effort to tease apart the molecular genetics of the muscular dystrophies, using an approach he developed, known as positional cloning, to chart

The Awards have reflected the Foundation's continuing mission to foster "new ideas, new public understanding, and new hope."

the occurrence of the disease in family members and use DNA samples to identify the defective gene and its protein product. Both Dr. Gusella and Dr. Kunkel have also gone beyond their role as researchers to address the social and ethical implications of the wealth of new genetic information now available.

Mr. Alvarado received the Award in Education for his commitment to the continual professional development of teachers and school administrators as an essential catalyst for the increased improvement of students' academic achievements. While superintendent of Manhattan's diverse community school District Two, with more than 23,000 students in pre-kindergarten through 12th grade, he selected principals who could serve as master teachers and role models. He developed a distinguished mentor program for these principals, a professional development laboratory for teachers, and a consulting service with highly skilled coaches who could work intensively with teachers to address concrete instructional problems in their schools. These efforts, not treated as ancillary but woven into the everyday fabric

of teaching, paid off in dramatically improved scores on standardized tests and an environment of clear communication and high expectations for students, teachers, and administrators alike.

The 1998 recipients of the Awards for Pioneering Achievement in Health and Education were selected by the Dana Awards Jury of preeminent scientists and educators, chaired by LaSalle D. Leffall, Jr., M.D. The Foundation's Board of Directors designates winners of the Distinguished Achievement Award.

The Dana Awards were established in 1986 to honor innovative achievements in scientific research, efforts to advance public understanding of disease, and initiatives to improve primary and secondary education. According to Foundation Chairman David Mahoney, the Awards have reflected the Foundation's continuing mission to foster "new ideas, new public understanding, and new hope." The 1998 Awards were the last that will be made in their present format. During the next two years, the Foundation will focus on developing its 50th Anniversary Celebration and reviewing the Awards program to assess its fit within the evolving mission of the Foundation. ■

The 1998 Dana Awards Jury

***LaSalle D. Leffall, Jr., M.D., F.A.C.S.,
Chairman***

Charles R. Drew
Professor of Surgery
Howard University Hospital

Ramon C. Cortines, Ph.D.

Executive Director
Pew Network for Standards-Based Reform
at Stanford University
Interim Director, Annenberg Institute
for School Reform at Brown University

Patricia Goldman-Rakic, Ph.D.

Professor of Neuroscience
Yale University School of Medicine

Murray Goldstein, D.O., M.P.H.

Medical Director
United Cerebral Palsy Research
and Educational Foundation

John Jay Iselin, Ph.D.

President
The Cooper Union for the Advancement
of Science and Art

Frank Newman, Ph.D.

President
Education Commission of the States

Samuel O. Thier, M.D.

President and CEO
Partners HealthCare System, Inc.

Torsten N. Wiesel, M.D., F.R.S.

President
The Rockefeller University

Special thanks for past service on the Dana
Awards Jury:

Jonathan F. Fanton, Ph.D.
Patricia Albjerg Graham, Ph.D.

FINANCIAL REPORT

SUMMARY OF APPROPRIATIONS AND PAYMENTS IN 1998

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
Health	\$ 3,909,430	\$ 9,163,150	\$10,499,468	\$ 2,573,112
Education	2,090,900	2,572,049	3,374,534	1,288,415
Cultural and Civic	100,000	401,090	401,090	100,000
Awards Program	—	455,021	455,021	0
TOTALS	\$ 6,100,330	\$12,591,310	\$14,730,113	\$ 3,961,527

HEALTH

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>University of Alabama School of Medicine</i>				
<i>Birmingham, AL</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	\$ 33,000	\$ 0	\$ 0	\$ 33,000
<i>Baylor College of Medicine</i>				
<i>Houston, TX</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	0	90,960	30,320	60,640
<i>Brigham and Women's Hospital</i>				
<i>Boston, MA</i>				
Study on stress, social networks, and risks of cancer	0	50,115	50,115	0
<i>Brown University</i>				
<i>Providence, RI</i>				
Dana Consortium on Memory Loss and Aging	75,000	0	75,000	0
Studies of brain tissues and computer modeling techniques	250,000	0	100,000	150,000
<i>Bowman Gray School of Medicine of Wake</i>				
<i>Forest University</i>				
<i>Winston-Salem, NC</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	34,000	0	34,000	0
<i>Childrens Hospital</i>				
<i>Boston, MA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	67,000	0	34,000	33,000

Health

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>Columbia University College of Physicians & Surgeons New York, NY</i>				
Dana Consortium on Memory Loss and Aging	\$ 75,000	\$ 0	\$ 75,000	\$ 0
Clinical Hypotheses in Neuroscience Research: Imaging	67,000	0	34,000	33,000
Imaging studies of implicit and explicit memory	100,000	0	100,000	0
<i>Dana Alliance for Brain Initiatives, Inc. New York, NY</i>				
Public education campaign on neuroscience research	0	4,941,620	4,941,620	0
<i>Dana Farber Cancer Institute Boston, MA</i>				
Conversion of hospital facilities	1,000,000	0	1,000,000	0
Meeting to study schizophrenia	0	45,000	45,000	0
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000
<i>Duke University School of Medicine Durham, NC</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	100,000	0	67,000	33,000
<i>Emory University School of Medicine Atlanta, GA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	100,000	0	50,000	50,000
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000

Health	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>Georgetown University School of Medicine Washington, DC</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	\$ 33,000	\$ 100,000	\$ 66,000	\$ 67,000
<i>Harvard Medical School Cambridge, MA</i>				
Dana Consortium on Memory Loss and Aging	233,000	15,000	248,000	0
<i>Harvard School of Public Health Cambridge, MA</i>				
Research on emotional support and heart rate variability	0	242,413	140,549	101,864
<i>Hospital for Special Surgery New York, NY</i>				
Dana Center for Orthopedic Implants	250,000	0	250,000	0
<i>Jimmie Heuga Center Avon, CO</i>				
Study of autonomic nervous system responses to exercise in patients	72,430	0	72,430	0
<i>Johns Hopkins University Baltimore, MD</i>				
Dana Consortium on Memory Loss and Aging	75,000	0	75,000	0
Clinical Hypotheses in Neuroscience Research: Imaging	100,000	0	67,000	33,000
Interactive teaching program in neuroscience	282,000	0	282,000	0
<i>Library of Congress/National Institute of Mental Health Washington, DC</i>				
Enhancing the Decade of The Brain	75,000	0	0	75,000

Health	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>Maine Medical Center</i>				
<i>Portland, ME</i>				
Outreach education programs	\$ 0	\$ 80,000	\$ 80,000	\$ 0
<i>Marine Biological Laboratory</i>				
<i>Woods Hole, MA</i>				
Science writing fellowship program	20,000	0	20,000	0
<i>Max Delbück Center for Molecular Medicine</i>				
<i>Berlin, Germany</i>				
Public education campaign in Europe on neuroscience research	50,000	0	50,000	0
<i>Memorial Sloan-Kettering Cancer Center</i>				
<i>New York, NY</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	35,000	0	35,000	0
<i>Massachusetts Institute of Technology</i>				
<i>Cambridge, MA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	131,000	0	65,000	66,000
<i>New York Hospital—Cornell Medical Center</i>				
<i>New York, NY</i>				
Research on severe brain injury	0	200,000	200,000	0
Clinical Hypotheses in Neuroscience Research: Imaging	0	100,000	50,000	50,000
<i>New York University Medical Center</i>				
<i>New York, NY</i>				
Dana Consortium on Language-Based Learning Disabilities	0	300,000	100,000	200,000

Health

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>Oregon Health Sciences University</i>				
<i>Portland, OR</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	\$ 0	\$ 99,816	\$ 50,000	\$ 49,816
<i>Research!America</i>				
<i>Alexandria, VA</i>				
435 project	0	300,000	300,000	0
<i>Stanford University</i>				
<i>Stanford, CA</i>				
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000
<i>The Mount Sinai Medical Center</i>				
<i>New York, NY</i>				
Dana Consortium on Memory Loss and Aging	75,000	0	75,000	0
<i>University of California, San Francisco</i>				
<i>San Francisco, CA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	0	98,484	50,000	48,484
<i>University of Iowa College of Medicine</i>				
<i>Iowa City, IA</i>				
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000
<i>University of Michigan, Medical Center</i>				
<i>Ann Arbor, MI</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	0	99,642	50,000	49,642

Health

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>University of Minnesota Medical School Minneapolis, MN</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	\$ 21,000	\$ 0	\$ 21,000	\$ 0
<i>University of Pennsylvania Philadelphia, PA</i>				
Dana Consortium on Memory Loss and Aging	154,000	0	154,000	0
Clinical Hypotheses in Neuroscience Research: Imaging	34,000	0	34,000	0
<i>University of Pittsburgh Medical School Pittsburgh, PA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	134,000	0	67,000	67,000
<i>University of Rochester Rochester, NY</i>				
Dana Consortium on Therapy for HIV Dementia	0	90,000	90,000	0
<i>University of Texas Medical School at San Antonio San Antonio, TX</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	100,000	0	60,000	40,000
<i>University of Virginia Charlottesville, VA</i>				
Study of sporadic neurologic disorders and Mitochondrial genes	0	150,000	150,000	0
<i>University of Washington School of Medicine Seattle, WA</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	67,000	0	34,000	33,000

Health	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>University of Wisconsin Madison, WI</i>				
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	\$ 0	\$ 100,000	\$ 0	\$ 100,000
<i>Washington University School of Medicine St. Louis, MO</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	0	100,000	33,334	66,666
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000
<i>Weill Medical College of Cornell University New York, NY</i>				
Fellowships in neuroscience	0	800,000	0	800,000
<i>Weizmann Institute of Science, Inc. Rehovot, Israel</i>				
Research on an infrastructure-based drug design	0	100,000	100,000	0
<i>Yale University School of Medicine New Haven, CT</i>				
Clinical Hypotheses in Neuroscience Research: Imaging	67,000	0	34,000	33,000
Clinical Hypotheses in Neuroscience Research: Brain-Body Interaction	0	100,000	50,000	50,000
<i>Other Health Grants</i>	0	460,100	460,100	0
TOTAL HEALTH GRANTS	\$ 3,909,430	\$ 9,163,15	\$10,499,468	\$ 2,573,112

EDUCATION

	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>American Museum of Natural History</i>				
<i>New York, NY</i>				
Renovation of the Dana wing	\$ 0	\$ 250,000	\$ 250,000	\$ 0
<i>Education Commission of the States</i>				
<i>Denver, CO</i>				
Study on the implications of neuroscience research for early childhood education	250,000	0	250,000	0
<i>Facing History and Ourselves</i>				
<i>Brookline, MA</i>				
Curriculum development and teacher training	0	241,923	112,122	129,801
<i>National Center for Family Literacy</i>				
<i>Louisville, KY</i>				
Family literacy program	0	245,890	104,990	140,900
<i>Parents as Teachers National Center, Inc.</i>				
<i>St. Louis, MO</i>				
Involvement of parents in early childhood education	179,900	335,429	347,615	167,714
<i>Prep for Prep</i>				
<i>New York, NY</i>				
Access for inner-city students to home computers	0	400,000	400,000	0
<i>Public Agenda</i>				
<i>New York, NY</i>				
Explore public opinion on public schools	0	304,907	304,907	0
<i>Palm Beach Atlantic College</i>				
<i>West Palm Beach, FL</i>				
Educational programs	0	50,000	50,000	0

Education	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>San Diego County Office of Education/AVID San Diego, CA</i>				
Expansion of the AVID program	\$ 161,000	\$ 25,000	\$ 186,000	\$ 0
<i>Syracuse University Syracuse, NY</i>				
Dana SU Library, outreach programs	0	50,000	50,000	0
<i>University of Texas at Austin Austin, TX</i>				
Charles A. Dana Center for Educational Innovation	1,500,000	0	650,000	850,000
Other Education Grants	0	668,900	668,900	0
TOTAL EDUCATION GRANTS	\$ 2,090,900	\$ 2,572,049	\$ 3,374,534	\$ 1,288,415

CULTURAL AND CIVIC

Cultural and Civic	UNPAID AT BEGINNING OF YEAR	APPROPRIATED DURING YEAR	PAID DURING YEAR	UNPAID AT END OF YEAR
<i>Museum of Modern Art New York, NY</i>				
Exhibitions to increase interest in the Museum's permanent collection	\$ 100,000	\$ 0	\$ 0	\$ 100,000
Other Cultural and Civic Grants	0	401,090	401,090	0
TOTAL CULTURAL AND CIVIC GRANTS	\$ 100,000	\$ 401,090	\$ 401,090	\$ 100,000

REPORT OF INDEPENDENT AUDITORS

The Board of Directors The Charles A. Dana Foundation, Incorporated

We have audited the accompanying statements of financial position of The Charles A. Dana Foundation, Incorporated (the Foundation) as of December 31, 1998 and 1997, and the related statements of activities, statements of cash flows and summary of appropriations and payments for the years then ended. These financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall

financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of The Charles A. Dana Foundation, Incorporated as of December 31, 1998 and 1997, and the changes in its net assets and its cash flows for the years then ended, in conformity with generally accepted accounting principles.

***A.J. Signorile & Co.
New York, New York
February 23, 1999***

STATEMENTS OF FINANCIAL POSITION

December 31, 1998 and 1997

	1998	1997
Assets:		
Marketable securities, at fair value (cost: 1998-\$212,481,798; 1997-\$222,186,995) (Note 1)	\$ 246,041,913	\$ 263,083,093
Investments in limited partnerships, at equity in fair value (Note 1)	46,578,843	35,191,963
Cash and cash equivalents (Note 6)	10,405,293	1,982,073
Accounts receivable (primarily security sales)	1,044,944	169,316
Accrued interest receivable	1,204,898	1,011,826
Fixed assets, at cost:		
Office furniture and equipment, net of accumulated depreciation: 1998: \$619,780; 1997: \$514,379	230,930	312,553
Leasehold improvements, net of accumulated amortization: 1998: \$454,409; 1997: \$359,832	449,661	535,939
Total Assets	\$ 305,956,482	\$ 302,286,763
Liabilities and Net Assets:		
Accounts payable and accrued liabilities (primarily security purchases)	\$ 1,740,668	\$ 245,691
U. S. excise tax payable (Note 2)	12,001	136,001
Deferred U. S. excise tax (Note 6)	671,202	817,922
Other deferred liabilities	527,042	649,621
Unpaid grant appropriations	3,961,527	6,100,330
Unpaid commitments for contributions of capital to limited partnerships (Note 1)	9,025,000	9,700,000
Net assets (unrestricted)	290,019,042	284,637,198
Total Liabilities and Net Assets	\$ 305,956,482	\$ 302,286,763

See accompanying notes.

The schedule of marketable securities as of December 31, 1998, is available upon written request.

STATEMENTS OF ACTIVITIES

For the years ended December 31, 1998 and 1997

	1998	1997
Investment Income:		
Dividends and interest	\$ 9,314,082	\$ 10,736,830
Income from limited partnerships	2,815,343	4,095,147
Net realized gain from sales and redemptions of securities	18,765,462	23,347,454
	<u>30,894,887</u>	<u>38,179,431</u>
Less: Investment management and custodian fees	(700,434)	(595,808)
	<u>30,194,453</u>	<u>37,583,623</u>
Net realized investment income		
Expenses:		
Grant appropriations	12,576,147	10,724,390
Direct charitable activities	3,568,401	2,851,856
General administration	1,042,798	1,112,045
Provision for U. S. excise tax (Note 2)	436,000	366,000
	<u>17,623,346</u>	<u>15,054,291</u>
Total expenses		
Excess of net realized investment income over expenses	12,571,107	22,529,332
Increase (decrease) in unrealized appreciation of marketable securities, net of deferred U. S. excise tax, 1998: reduction (\$146,720); 1997: provision \$185,426	<u>(7,189,263)</u>	<u>9,085,861</u>
Increase in unrestricted net assets	5,381,844	31,615,193
Unrestricted net assets at beginning of year	<u>284,637,198</u>	<u>253,022,005</u>
Unrestricted net assets at end of year	<u>\$ 290,019,042</u>	<u>\$ 284,637,198</u>

See accompanying notes.

STATEMENTS OF CASH FLOWS

For the years ended December 31, 1998 and 1997

	1998	1997
Cash flows from operating activities:		
Increase in unrestricted net assets	\$ 5,381,844	\$ 31,615,193
Adjustments to reconcile change in unrestricted net assets to net cash provided (used) by operating activities:		
Depreciation and amortization	107,741	134,611
Realized (gains) on sales of investments	(18,765,462)	(23,347,454)
Unrealized (gains), losses on investments	7,335,983	(9,271,287)
Share of (income) from limited partnerships	(2,815,343)	(4,095,147)
(Increase) decrease in:		
Interest receivable	(193,072)	48,767
Accounts receivable	(875,627)	(129,185)
Increase (decrease) in:		
Accounts payable and accrued liabilities and unpaid commitments for contributions of capital to limited partnerships	789,636	9,468,636
Unpaid grant appropriations	(2,138,803)	(2,236,255)
U. S. excise tax payable	(124,000)	86,000
Deferred U. S. excise tax	(146,720)	185,426
Net cash provided (used) by operating activities	<u>(11,443,823)</u>	<u>2,459,305</u>
Cash flows from investing activities:		
Purchase of office furniture and equipment	(23,779)	(39,147)
Cost of leasehold improvements	(8,300)	—
Purchase of securities	(321,116,611)	(127,344,981)
Purchase of limited partnership interests	(15,007,452)	(12,303,412)
Proceeds from sales of securities	349,587,270	135,006,926
Proceeds from partnership distributions and partial withdrawal of investment in limited partnership	6,435,915	926,845
Net cash provided (used) by investing activities	<u>19,867,043</u>	<u>(3,753,769)</u>
Net increase (decrease) in cash	8,423,220	(1,294,464)
Cash balance at beginning of year	<u>1,982,073</u>	<u>3,276,537</u>
Cash balance at end of year	<u>\$ 10,405,293</u>	<u>\$ 1,982,073</u>

See accompanying notes.

SUMMARY OF APPROPRIATIONS AND PAYMENTS

For the years ended December 31, 1998 and 1997

	1998	1997
Unpaid grant appropriations at the beginning of the year	\$ 6,100,330	\$ 8,336,585
Grant appropriations during the year, net of grant refunds in the amount of \$15,162 for 1998 and \$528,873 for 1997 and grant cancellations in the amount of \$614,500 for 1997	<u>12,576,147</u> 18,676,477	<u>10,724,390</u> 19,060,975
Payments:		
For grant appropriations, net of grant refunds in the amount of \$15,162 for 1998 and \$528,873 for 1997 and grant cancellations in the amount of \$614,500 for 1997	<u>14,714,950</u>	<u>12,960,645</u>
Unpaid grant appropriations at end of year	<u>\$ 3,961,527</u>	<u>\$ 6,100,330</u>

See accompanying notes.

NOTES TO FINANCIAL STATEMENTS

December 31, 1998 and 1997

NOTE 1 - INVESTMENTS

Marketable securities are summarized as follows:

	1998		1997	
	COST	FAIR VALUE	COST	FAIR VALUE
Fixed Income Securities:				
U.S. Government and Agency Obligations	\$ 44,674,272	\$ 46,355,712	\$ 29,264,045	\$ 30,034,201
Municipal Bonds	750,000	815,525	750,000	753,897
Corporate Obligations	23,070,504	23,850,146	34,828,214	35,862,132
	<u>68,494,776</u>	<u>71,021,383</u>	<u>64,842,259</u>	<u>66,650,230</u>
Common Stock	50,830,040	58,625,995	45,172,315	57,300,003
Mutual Funds	93,156,982	116,394,535	112,172,421	139,132,860
	<u>144,017,022</u>	<u>174,996,525</u>	<u>157,344,736</u>	<u>196,432,863</u>
Total	<u>\$212,481,798</u>	<u>\$246,041,913</u>	<u>\$222,186,995</u>	<u>\$263,083,093</u>

The Foundation's investments in marketable securities are carried at fair value which is measured by quoted market price. The increase or decrease in unrealized appreciation, relative to the Foundation's portfolio of marketable securities, is determined by measuring the change in the aggregate fair values of the portfolio as of the respective dates of the statements of financial position. Realized gains and losses are computed as of trade date. Security costs are determined using the first-in first-out method. Costs of

mutual fund shares are measured under the average cost method. Investments in limited partnerships are carried at fair value which is based on the Foundation's interest in the aggregate fair value of the partnerships' net assets, as estimated by the general partner of each limited partnership. As of December 31, 1998, under the provisions of certain venture capital limited partnership agreements, the Foundation has unpaid commitments to contribute \$9,025,000 in additional capital over the next 4 years.

NOTES TO FINANCIAL STATEMENTS *(continued)*

December 31, 1998 and 1997

NOTE 2 - U.S. EXCISE TAX

The Foundation is a private philanthropic foundation, chartered in 1950, with principal interests in the fields of health and education. The Foundation, by reason of its classification as a private foundation, is subject to a U. S. excise tax of 2% on investment income less investment expenses, and on net realized gains on sales and redemptions of securities. However, pursuant to Section 4940(e) of the Internal Revenue Code, the tax is reduced to 1% if the Foundation satisfies certain requirements, as to the level of qualifying distributions. During the years ended December 31, 1998 and December 31, 1997, the Foundation satisfied these requirements and, accordingly, was subject to the 1% excise tax.

NOTE 3 - LEASE COMMITMENTS

The Foundation's current lease provides for a rent-free period and contributions from the lessor intended to offset the cost of leasehold improvements. The accompanying statements of activities reflect rent expense recognized on a straight-line basis over the term of the Foundation's lease, reflective of the concession provisions of the lease agreement.

The Foundation's obligation under the current lease expires on August 31, 2003. Under the provisions of the lease agreement, the Foundation's future minimum annual rental payments, as of December 31, 1998, are as follows:

1999	\$ 587,046
2000	597,162
2001	600,534
2002	617,582
January 1, 2003 through August 31, 2003	<u>423,212</u>
Total	<u>\$ 2,825,536</u>

The lease agreement requires additional payments to cover the escalation of maintenance costs and real estate taxes. Rental expense included in the statements of activities amounted to \$312,338 in 1998 and \$297,908 in 1997.

NOTES TO FINANCIAL STATEMENTS *(concluded)*

December 31, 1998 and 1997

NOTE 4 - PENSION PLAN

The Foundation has a noncontributory defined contribution retirement plan covering all regular salaried employees who are at least 21 years of age and have completed six months of service. For the year ended December 31, 1998, retirement plan expense, included in the statements of activities, amounted to \$270,819. Similarly, for the year ended December 31, 1997, retirement plan expense amounted to \$279,741.

NOTE 5 - RELATED PARTY TRANSACTIONS

Two directors who also serve as officers of the Foundation are each associated with law firms which respectively render legal services to the Foundation.

The Dana Alliance for Brain Initiatives, Inc., an affiliate of the Foundation, received grants aggregating the amount of \$4,941,620 for the year ended December 31, 1998 and the amount of \$2,935,220 for the year ended December 31, 1997. In addition, the Foundation and the Alliance share certain expenses, including administrative services and office occupancy.

The Brain-Body Institute, L.L.C., an affiliate of the Foundation, was organized in 1998 as a not-for-profit entity whose mission is to advance knowledge about the relationship between physiological changes in the brain and the prevention and treatment of heart disease, cancer and stroke.

NOTE 6 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting practices of the Foundation are summarized as follows: (1) Assets and liabilities and income and expenses are recorded on the accrual basis of accounting. (2) Cash and cash equivalents include money market deposits for 1998 and 1997. (3) Expenditures for fixed assets and leasehold improvements are capitalized and depreciated using the straight-line method over the estimated useful lives of the assets or amortized over the term of the Foundation's lease. (4) Deferred U. S. excise tax represents the anticipated future tax consequences attributable to differences between financial and tax reporting relative to realized gains on securities transactions and the difference between the tax basis and fair value of marketable securities. (5) Appropriations are recorded and charged to operations when approved by the Board of Directors for a specific program, program expense or grant. (6) The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. (7) Specific reclassifications have been made to prior year financial information included in the Statement of Activities in order to conform to the 1998 presentation format.

GRANTS AND AWARDS GUIDELINES

The Charles A. Dana Foundation is a private philanthropic foundation with principal interests in health and education. It was established in 1950 by Charles A. Dana, a New York State legislator, industrialist, and philanthropist. In 1991, the Foundation completed a comprehensive review of its programs and set new directions, which are described briefly below. Because the Foundation's programs are the basis for its decisions on grant applications, readers are encouraged to consult these descriptions before they submit a request.

General Policies

In general, the Foundation makes its grants in accordance with these policies and procedures:

1. The Foundation's programs are in health and education; carefully defined objectives in each field are the basis of its grant making.
2. In many cases, the Foundation requires grantee institutions to share the cost of a project or raise matching funds.
3. The Foundation makes no grants directly to individuals.
4. Foundation grants do not support annual operating budgets of organizations, deficit reduction, endowments, capital campaigns, purchase of equipment, or individual sabbaticals. Requests for support of facilities are seldom considered.
5. The Foundation does not consider unsolicited requests from organizations outside the United States.
6. The Foundation does not schedule meetings with applicants until the Foundation's staff has reviewed a written request from the applicant and determined that it relates to the Foundation's current grant-making priorities.

Program Guidelines

Health

In health, the Foundation makes its major grants for collaborative research on brain diseases and disorders. This collaborative research is carried out by consortia of scientists from medical centers with outstanding strength in neuroscience. The goal is to advance diagnosis, treatment, or prevention. The formation of most new Consortia is initiated by the Foundation.

Consortia currently underway include:

- 1) memory loss in older persons, 2) the genetic basis of manic-depressive illness, 3) language-based learning disorders, 4) therapy for HIV dementia, and 5) neuroimaging leadership training.

The Foundation also supports the Dana Clinical Hypotheses Program. This competitive grants program supports pilot testing of experimental and innovative ideas that have the potential of advancing clinical applications of neuroscience research. Requests for Proposals in targeted areas are sent to the deans of all U.S. medical schools. Inquiries about this program should be made directly to the deans' offices, not to the Foundation.

Individuals and institutions proposing other opportunities for advancing clinical applications of recent neuroscience research should describe their idea in a brief letter to the Foundation (see "Information About Applying"). They should be aware, however, that funds for such initiatives are very limited.

Education

Throughout its history, the Dana Foundation has supported advances in education. A continuing goal is to invest limited financial resources in ways that achieve a significant, measurable impact. The Foundation's current commitment is to spread implementation of well-tested innovations that have the potential to strengthen education in American public schools, especially for students in the early years of education. Most of these innovative ideas are identified through the annual Charles A. Dana Awards for Pioneering Achievements in Education (described below). To speed dissemination of these ideas, the Foundation works with communities that are critical to education: both those that are already active and those with potential for productive involvement. Although the education grants program is designed to benefit schools and school systems throughout the country, Foundation grants ordinarily are not made directly to individual schools.

In considering grants in education, the Foundation gives very high priority to ideas already screened through the rigorous Dana Awards process described below. Requests for support of projects not identified through this process are best submitted to the Foundation in the form of a very brief exploratory letter.

Dana Awards

The annual Charles A. Dana Awards for Pioneering Achievements in Health and Education honor innovative ideas with demonstrated potential. The goals of the Awards are to call attention to those ideas and to increase their impact by encouraging their further development and dissemination. In health, the Awards spotlight cutting-edge advances in neuroscience that can be applied to preventing or alleviating human brain disorders. In education, the Awards spotlight innovative ideas for improving the quality of precollegiate education. Awards of up to \$50,000 are made each year to winners selected by an independent jury of leading scientists and educators. The Foundation is suspending the Dana Awards Program for 1999 to celebrate its 50th Anniversary. Therefore, the Foundation is not soliciting Awards nominations in 1999. Plans for future nominations will be announced at a later date.

Information about Applying

Initial inquiries to the Foundation should be in the form of a two-page letter. The letter should describe the following:

1. the goal(s) of the proposed project,
2. the need the project would meet and its fit with the Foundation's priorities in health or education,
3. the means to be used to achieve the project's goal(s),
4. the capabilities of the institution to undertake the project, and the qualifications of the project's proposed director,
5. the estimated cost and proposed methods of financing the project, including the institution's intended contribution.

Letters of inquiry should be mailed to the Dana Foundation. No letters submitted by fax will be accepted. If the Foundation determines that an inquiry fits its interests, a full proposal will be requested. Supporting materials should not be submitted until that time. A full proposal should be accompanied by documents establishing the applicant's tax exempt status under Section 501(c)(3) of the Internal Revenue Code.

The Charles A. Dana Foundation
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New York, New York 10151
(212) 223-4040
E-mail: danainfo@dana.org
Internet site: <http://www.dana.org>

PUBLICATIONS AVAILABLE

The Dana Press Publications on the Brain

The Dana Press, publisher for the Charles A. Dana Foundation and the Dana Alliance for Brain Initiatives, produces periodicals, reports, reference works, and books in the fields of health—particularly the progress and promise of brain research—and early education. Most publications are available free of charge and may also be read on the Dana Web site. To order, send your written request by fax to (202) 737-9207 or by mail to The Dana Press, 1001 G Street NW, Suite 1025 Washington, DC 20001

Cerebrum: The Dana Forum on Brain Science

Paid subscription quarterly journal of ideas, with articles, debates, and reviews from top neuroscientists and other thinkers. Written for readers both with and without a scientific background who are stimulated by the ways in which brain science is reshaping world views. Request free sample issue.

BrainWork: The Neuroscience Newsletter (Bi-monthly) Lay-oriented articles dealing with the brain, its powers, and its problems.

The Brain in the News (Bi-weekly)
Reprinted articles from major newspapers about the brain and new research findings.

Brain Connections: Your Source Guide to Information on Brain Diseases and Disorders
Reference guide for contacting organizations that deal with specific brain problems. More than 275 listings.

Delivering Results: An Annual Progress Report on Brain Research: Recap of the progress in all areas of brain research in the previous year. (Published every March.)

Answering Your Questions About Brain Research

Pamphlet, written in question-and-answer format, that illustrates how discoveries in brain research are giving us new hope for happier, healthier lives.

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Foreword by William Safire

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New for 1999

States of Mind: New Discoveries About How Our Brains Make Us Who We Are

Edited by Roberta Conlan

Contributors are J. Allan Hobson, Steven Hyman, Kay Redfield Jamison, Jerome Kagan, Eric Kandel, Joseph LeDoux, Bruce McEwen, and Esther Sternberg.

Eight leading brain scientists reveal how our health, behavior, feelings, and identities are influenced by what goes on inside our brains. \$24.95 US/\$38.95 CAN ISBN 0-471-29963-4

While there, visit the *Dana BrainWeb*, *Great Sites for Information on Brain Diseases and Disorders*. A Neurosciences on the Internet "Best Bet" and a Lycos Top 5% site, the *Dana BrainWeb* offers recommendations for Internet sites with validated current information useful for the lay person. Covering 23 common brain diseases and disorders, this guide will link Internet users to sites that provide descriptions of the disease, background for talking with a physician, treatment options, support for families and care givers, and sources of more information. www.dana.org/brainweb

Internet

Web address: www.dana.org

Many Dana Press publications, along with current news and information about the programs and activities of the Foundation and the Dana Alliance for Brain Initiatives, may be found at the Foundation's Internet site.

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