

PASTEUR PERSPECTIVES

THE NEWSLETTER OF THE PASTEUR FOUNDATION DEVOTED TO THE WORLD OF THE INSTITUT PASTEUR

THE CUTTING EDGE

by Caitlin Hawke

RECENT ADVANCES AGAINST MALARIA

Featured in the Spring 2000 issue of *Pasteur Perspectives*, malaria is back in our spotlight due to two promising developments. Readers may recall some of the statistics associated with this infectious, vector-borne disease: there are approximately 300 million clinical cases and 1.5 million deaths per year, primarily in sub-Saharan Africa. Malaria is caused by a single-cell protozoan,



Malaria epidemiology: patients in Senegal wait for their medical appointments

the most widespread and pernicious species of which is *Plasmodium falciparum*. This infectious agent is transmitted from an infected to an uninfected person by the bite of an *Anopheles* mosquito, most often of the species *Anopheles*

gambiae. It is a debilitating disease that affects the liver and, if not effectively treated, may eventually cause anemia, kidney failure, and a condition called cerebral malaria that often results in death. Furthermore, malaria takes a devastating economic toll in Africa. The fight against the disease has proven ineffective on several levels: drugs are expensive and sometimes difficult to obtain, and both drugs and insecticides have little impact on new resistant strains of the parasite and the mosquito respectively. The lack of an adequate *in vivo* (live animal) model and the global variability of the parasite and its transmissibility have made the quest for a vaccine elusive. Much hope for a breakthrough in the fight against this disease lies in our complete genomic understanding of the parasite and the vector.

Genome Project Inspires International Consortium

On March 3rd, 2001, at the Institut Pasteur, an international network of *Anopheles gambiae* researchers and scientists at genome sequencing centers met and agreed on the general principles and method of operation for sequencing the genome



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PASTEURAL SYMPHONY

On March 20th, under the baton of conductor François Boulanger, the symphony orchestra of La Garde Républicaine, France's élite ceremonial military corps, made its first appearance in the United States in over 25 years. In full military uniform, the orchestra performed a beautiful program, including works by Tchaikovsky, Haydn and Britten, to a full house at Lincoln Center's Avery Fisher Hall.

The Pasteur Foundation benefited from a gala post-performance dinner for 220 people held under the high patronage and in the presence of His Excellency François Bujon de l'Estang, the Ambassador of France to the United States; and the Consul General of France in New York, the Honorable Richard Duqué. The Honorable Jean-David Levitte, the Permanent Representative of France to the United Nations, also attended. The Gala committee was led by Honorary Chairmen Felix G. Rohatyn and Anne Cox Chambers and by Co-Chairmen Mrs. Anastassios Fondaras, Mr. and Mrs. Georges Hibon, Mr. and Mrs. Guy Wildenstein, and Mrs. and Mrs. Donald E. Zilkha.



Daniel Brodsky and Gala Co-Chairman Agnès Hibon

The evening was the foundation's most successful event to date, raising more than \$400,000. Special thanks are due to the underwriters Aventis Pasteur and the Procter & Gamble Company as well as to each donor listed on page 5.

The Pasteur Foundation gratefully acknowledges the following companies for their specially donated party favors: Parfums Caron, L'Occitane en Provence and la Maison du Chocolat. Flowers by Avi Adler.

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JOIN THE OSIRIS SOCIETY FOR THE GIFT OF A LIFETIME

“Je place mon legs universel et son exécution sous l’invocation de la mémoire du grand Pasteur, une des gloires les plus pures de mon pays.” – Daniel Iffla-Osiris

Born in 1824 to an old family from the Bordeaux region of France, Daniel Iffla-Osiris moved to Paris as a young man and began a remarkable career in banking. Having amassed enormous wealth while financing the affairs of the Second Empire, he became a philanthropist who underwrote the construction of hospital pavilions, municipal daycare facilities, and statues honoring Jeanne d’Arc and Alfred de Musset. Perhaps his greatest cultural contribution was the purchase and restoration of Malmaison, Napoleon’s chateau outside of Paris, which he gave to the State in 1904.

Without question, his foremost humanitarian act, referred to in the quote above from his last will and testament, was the appointment of the Institut Pasteur as his universal legatee. The Osiris bequest, which amounted to 36 million gold francs (today’s equivalent of 500 million French francs or about \$71 million), is the largest ever received by the Institut Pasteur, enabling it to create an endowment, to acquire new grounds in the 15th arrondissement of Paris and to establish a laboratory for Marie Curie at the Institut Pasteur after her husband Pierre’s death in 1908.

To mark its 15th year in New York representing the internationally renowned Institut Pasteur in Paris, the Pasteur Foundation has established the Osiris Society to recognize those generous individuals living in the United States who, in a spirit similar to that of Daniel Iffla-Osiris, have made estate plans to benefit the Pasteur Foundation and further the work of the institution founded by Louis Pasteur, one of France’s “purest glories.”



“I beseech you to take interest in these sacred domains so expressively called ‘laboratories.’ Ask that there be more and that they be adorned, for these are the temples of the future, wealth and well-being. It is here that humanity will grow, strengthen and improve. Here, humanity will learn to read progress and individual harmony in the works of nature....”

– Louis Pasteur

Louis Pasteur undertook a decisive battle for the progress of humanity. This battle is not over; it will continue as long as new diseases appear. More than ever, scientific research remains an urgent priority.

For well over a century, bequests have been the philanthropic backbone of the Institut Pasteur. Such support has literally changed the face of the campus, enabling the institute to acquire land, to build state-of-the-art facilities, to finance fellowships, to purchase equipment and, finally, to advance our understanding of infectious diseases. This type of support is a commitment to the future improvement of international public health.

Because the Pasteur Foundation is a 501(c)(3) corporation in New York, naming it in your will can provide significant tax benefits for your estate and heirs.

By notifying the foundation of your intentions, you will enable it to plan for the future and to provide for the next generation of research.

MEMBERSHIP BENEFITS

Members of the Osiris Society are entitled to a private VIP tour of the Pasteur Museum on the Paris campus of the Institut Pasteur. In addition, Osiris members will receive invitations to occasional lectures in New York given by Pasteur scientists. Unless they wish to remain anonymous, donors in this society will be acknowledged in the Pasteur Foundation’s newsletter *Pasteur Perspectives*. Finally, Osiris members will have the satisfaction of knowing they have helped to advance biomedical research through their bequest or planned gift to the Pasteur Foundation.

While there are no dues for membership in the Osiris Society, there is an enrollment procedure. Why not take the first step by returning the form on page 3.

To become a member of the Osiris Society, please inform the director of development that you have named the Pasteur Foundation as a beneficiary of your estate or trust or of a life insurance policy or a retirement plan. To determine what type of estate plans are best for you, please consult your attorney or tax advisor.

For additional information, please contact Caitlin Hawke at 212.599.2050 or email: PasteurUS@aol.com.

GIFTS BY WILL OR TRUST

Regardless of the amount, a gift to the Pasteur Foundation by will or trust is a commitment to the future improvement of international public health. And, by including the Pasteur Foundation, a 501(c)(3) not-for-profit corporation, in your estate plans, you can make your personal mark on the Institut Pasteur. Many of our friends in the United States have found this the simplest way to support Pasteurian research.

Planned wisely with your attorney and/or estate adviser, bequests to the Pasteur Foundation may take many forms:

- The most direct way to provide for a charitable gift in your will is through a **SPECIFIC** or **PERCENTAGE BEQUEST**.

Sample language:

I give to the Pasteur Foundation, a 501(c)(3) corporation organized under the laws of New York State and situated in New York City, the sum (or percentage of the estate) of (FILL IN) to be used in the manner its Board of Directors determines.

- A **RESIDUARY BEQUEST** directs that, after all specific legacies are distributed, the named institution receive the remainder of the estate.

Sample language:

I give to the Pasteur Foundation, a 501(c)(3) corporation organized under the laws of New York State and situated in New York City, all (or a percentage) of the residue and remainder of my estate to be used in the manner its Board of Directors determines.

- You may also plan for an estate tax charitable deduction by naming the Pasteur Foundation as the beneficiary of a new or existing **LIFE INSURANCE POLICY** in your will.
- By naming the not-for-profit Pasteur Foundation a beneficiary of your **RETIREMENT ACCOUNT**, you accomplish two things: you provide your estate with a charitable deduction and you alleviate the burden of income taxes that your heirs would otherwise have to pay on withdrawals.
- A whole range of **TRUSTS** (charitable remainder, annuities, etc.) whereby assets are transferred irrevocably to a trustee such as a charitable organization may be established to save estate taxes.

Please note that the above information is not intended as specific legal or tax advice. If you would like to include the Pasteur Foundation in your estate plans, please consult with your personal advisers.

For further information about gifts to the Pasteur Foundation, please contact Caitlin Hawke at 212.599.2050 or email: PasteurUS@aol.com.

PASTEUR FOUNDATION 420 LEXINGTON AVENUE, SUITE 1654, NEW YORK, NEW YORK 10170

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- Please contact me; I would like to join the Osiris Society.
- Please provide me with more information about how I can support the research of the Institut Pasteur and ensure its excellence by making provisions in my testament naming the Pasteur Foundation a beneficiary (*please check*): in my will in my trust in my insurance policy in my retirement plan

I understand that the information on this card is confidential and that I am under no obligation to make a contribution or bequest.

- I am enclosing a contribution to help support the research conducted at the Institut Pasteur to improve worldwide public health by making a tax-deductible gift to the Pasteur Foundation in the amount of:

\$1,000 \$500 \$100
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- Please send more information about the Institut Pasteur.

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The Pasteur Foundation is a 501(c)(3) organization.

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THE AMERICAN SOCIETY OF THE FRENCH LEGION OF HONOR CELEBRATES TWO PASTEURIANS

On January 18th at the French Consulate in New York, Guy Wildenstein, President of the Society, awarded its Medal for Distinguished Achievement to our Chairman, Elizabeth Fondaras, and to our Vice-Chairman, Anne Cox Chambers, for having “relentlessly strived to strengthen relations between France and the United States...[with] a special mention for their dedication to the work of the Pasteur Foundation.”

Photo by Harold Heckler, courtesy of the American Society of the French Legion of Honor



The Officers of the American Society of the French Legion of Honor with this year's awardees; L to R: John Young, Anne Cox Chambers, Guy Wildenstein, Elizabeth Fondaras, Nicole Hirsh, and Ezra Zilkha

MORE TO THE POINT: BRIEF NEWS FROM PASTEUR

ADVANCES IN CANCER THERAPY: In March, the Institut Pasteur released promising results of anticancer vaccine research by two resident teams of immunologists and chemists. These teams, headed by Claude Leclerc and Sylvie Bay respectively, have devised a completely synthetic immunogen able to provoke rejection of tumors. Applied in mice with tumors, the therapy reduced or destroyed growths in 80% of the cases, an important development in research of therapeutic vaccines against cancer.

WHAT'S COOKING: The Entobacteria Lab at Pasteur has set up an experimental kitchen to gather data on hygiene in the home. The lab, headed by Patrick Grimont, will devise new strategies to control infection by testing for and monitoring bacterial growth during food preparation and cleaning. This study is conducted in association with Procter & Gamble under the collaboration agreement with Pasteur in the field of hygiene.

HONG KONG UNIVERSITY–PASTEUR RESEARCH CENTER: Inaugurated last fall, this laboratory works on the functional genomics of microorganisms and the surveillance and control of emerging diseases in China.

A BIOTECH HATCHERY IS BORN

The Institut Pasteur recently inaugurated Pasteur BioTop, its incubator of biotech start-ups. In a building capable of housing a dozen new companies, this incubator aims to help young researchers launch their own enterprise with scientific work they have begun in Pasteur labs. For an incubation period of two years, the start-ups take advantage of the institute's infrastructure and fully equipped laboratories. To date, Hybrigenics, Diatos, Collectis, Evologic and PasteurMed have been formed. True to the philosophy of Louis Pasteur, the incubator will enable the public to benefit as quickly as possible from laboratory advances. To learn more, visit the following website: <http://www.pasteur.fr/applications/dri/indexInt.html>.

PASTEUR PERSPECTIVES

A 501(c)(3) organization, the Pasteur Foundation is the U.S. nonprofit affiliate of the Institut Pasteur. Located in New York City, the foundation works to introduce the research conducted at the Institut Pasteur to the American public, to develop exchanges between Pasteurian and U.S. scientists, and to raise funds for Pasteurian research. For more information, please contact the Pasteur Foundation.

A copy of the latest annual report may be obtained, upon written request, from the Office of the Attorney General, Charities Bureau, 120 Broadway, New York, New York 10271.

420 Lexington Avenue, Suite 1654
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Caitlin M. Hawke

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Institut Pasteur Director General Philippe Kourilsky, Gala Co-Chairman Elizabeth Fondaras, Spiros Milonas and Frances Hayward

“Our Institute is committed to a number of projects of great interest to the Third World as well as to our own countries, since not one single person on this planet lives without the risk of exposure to infectious disease. This is why the Pasteur Foundation is committed to raising funds for the improvement of public health. Thank you so much for your support.”

– From Director General Philippe Kourilsky’s remarks March 20, 2001



Cécile Zilkha and Simon Abrahams



Ambassador François Bujon de l’Estang

“The success of this gala evening attests to the vitality of this remarkable organization so imbued with French history and so forward-looking. My thanks to each person here, regardless of nationality, who understands the importance of such a borderless cause.... Knowing you are on its side is very encouraging to me as a liaison between our two countries.”

– From Ambassador Bujon de l’Estang’s remarks March 20, 2001

Luc de Clapiers with his guests Ian and Nadia Williams



Ambassador Bujon de l’Estang (center) with Mr. and Mrs. Richard Duqué

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The Pasteur Foundation extends its sincere thanks to the following individuals and companies who made the 2001 Gala its most successful benefit to date.

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List as of May 1, 2001



ADVANCES AGAINST MALARIA *continued from page 1*

of the mosquito. The information will be freely available through public databases. The distinguished network includes the Institut Pasteur, the French National Sequencing Center, the European Molecular Biology Laboratory in Germany, the Institute of Molecular Biology and Biotechnology in Greece, the Organization for Nucleotide Sequencing and Analysis network (ONSA) in Brazil and, from the United States, the University of Notre Dame, Celera Genomics, and The Institute for Genomic Research (TIGR).

The participants have devised a program to sequence the entire *A. gambiae* genome, with the first version to be completed this year, in the hope of expanding the collaborative approach to the genomic analyses of additional *Anopheles* species that transmit malaria in other parts of the world. Because malaria only spreads when the parasite is passed between humans by the bite of an *Anopheles* mosquito, control of human exposure to the insect is seen as the surest way to arrest the disease.

In addition to those of both the *Plasmodium* parasite and the human genome, the sequencing and annotation of the *Anopheles* genome will enable researchers to identify through functional genomics new mechanisms for controlling the malaria disease cycle. For example, identifying certain mosquito genes that code for the insect's immunity to the parasite, its resistance to insecticides, its behavior and any mechanism involved in the vector-parasite relationship should result in novel applications to reduce transmission and ultimately control malaria.

“Humanized” Mice Provide Model to Test Vaccine

A Pasteur team headed by Pierre Druilhe in the Biomedical Parasitology Lab has recently made headway in the search for a malaria vaccine.

In a small village in Senegal, a malaria-endemic area, members of this Pasteur lab conducted a unique immunological study through which they were able to demonstrate that individuals who display a natural immunity to malaria infection in most cases present a particular antibody, anti-MSP3. This finding led them to develop “humanized” mice to test the vaccinating potential of this antibody by tolerizing the mice to human red and white blood cells. Because the malaria parasite uses these cells to multiply and spread, these mice provide an appropriate non-primate *in vivo* model in which to evaluate the protective effect of a vaccine. Until this development, a major stumbling block in the search for a malaria vaccine had been the lack of a suitable *in vivo* model. After infecting the “humanized” mice with the malaria parasite *Plasmodium falciparum*, researchers injected the mice with the human anti-MSP3 antibody. The result: an immediate disappearance of all traces of the malaria parasite. This promising finding supported the initiation of human clinical trials now in their primary phase.

These two recent developments in the study of malaria typify the Institut Pasteur's commitment to improving global public health through basic and applied research on infectious diseases.