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NEWS AND NOTES 1991, MARCH 15

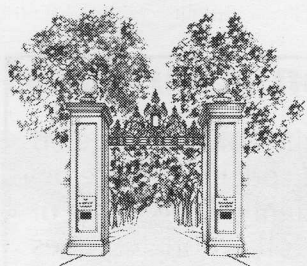
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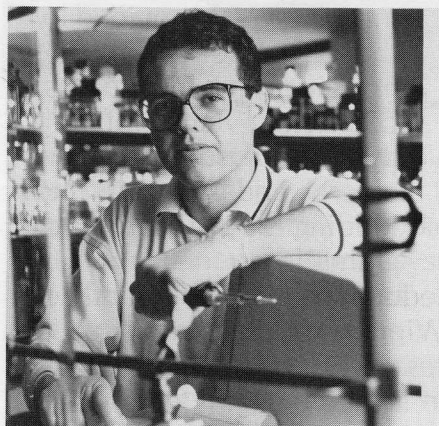
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News & Notes

Heme can take the bite out of malaria



Andrew Slater

Bob Reichert

with the heme released when red blood cells die) the parasites could degrade heme and excrete it. Instead, they follow a different path and render the heme harmless by turning it into a crystalline material called *hemozoin*.

Scientists have known about hemozoin since the 18th Century, when they observed that it caused a dark brown discoloration of the liver, spleen and brain in people with severe malarial

infection, then called "marsh fever." But hemozoin's structure remained unknown until recently, when it was elucidated by a group of Rockefeller researchers that includes Slater, Biomedical Fellow William Swiggard, Postdoctoral Fellow Daniel Goldberg (now at Washington University in St. Louis), Professor Anthony Cerami and the late Graeme Henderson,

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Malaria parasites can't live with it; humans can't live without it. "It" is *heme*, the iron-containing component of the hemoglobin protein in red blood cells.

Unlike humans, who need heme to pick up oxygen and transport it throughout the body, malaria parasites (which infect red blood cells) have no use for heme. Rather, explains Research Associate Andrew Slater, they use only the protein part of hemoglobin for food, discarding the heme like so much waste.

But this waste is potentially toxic. "When heme is released from its protein scaffold, it can burst the malaria parasite's membranes," says Slater.

Theoretically, the parasite could have evolved any number of ways to deal with this threat, says Slater. For example, like human cells (which must deal

United Way Campaign begins



"Who ya gonna call?" may have been the catchy theme for the film *Ghostbusters*, but when people in our area need a helping hand, they don't usually turn to movie-star Bill Murray. They turn to the United Way.

That's because in 1990 the United Way of New York City distributed more than \$51 million to some 600 health and human service agencies, including 37 in The Rockefeller University neighborhood. The university's 1991 United Way Campaign, which begins Monday and runs through Friday, March 29, has a simple goal: to support these agencies by getting people on campus to sign up for the payroll deduction program.

Last year, approximately \$6,300 was raised during the Rockefeller's United Way drive, with about 3% participation. This year's goal is to raise \$12,000 and increase on-campus participation, according to Ray Aldrete, Director of the Media Resource Center and Chairman of this year's campaign. "If a person gives a little from each paycheck, they don't even miss it," Aldrete said. "Yet, if everyone does that, as a group we'd make a sizable contribution."

On Monday, everyone on campus will receive a small red and white card outlining the various giving options. To get involved, simply fill out the card and return it to the United Way representative in your lab or department. A pledge of any amount is welcome, and

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Opinion

To members of The Rockefeller University community:

For many in New York, the times are difficult as recession grips our town and the rest of the country. For some, conditions are nearly intolerable. One safety net is the United Way of New York City.

Today, I ask you to give—give much more freely than you have in the past—to the United Way.

We might want to complain that things are getting tough for us, too, and for many in our campus community that's true. But each day we are reminded—in news stories and just walking down the street—that for many others, life is very difficult.

Last year, 3% of our community contributed \$6,363 to the United Way. Our goal this year is modest: \$12,000. More important than that is the need for more members of our family to participate in helping to solve the problems of the community in which we live.

Next week, a representative of your group will collect your pledge card and answer any questions you have on the United Way. Please make it easy for him or her—pledge a dollar or two a week. That's not much, but if everyone employed on this campus gave just one dollar each week, we'd send \$75,000 to the United Way.

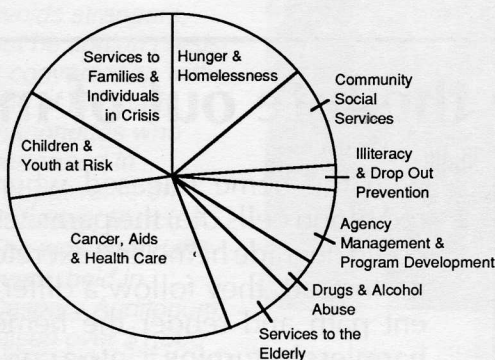
More importantly, we'd send the needy this message: Those of us who have jobs, have homes to return to each evening, care about their plight.

—by David Baltimore

United Way (continued from page 1)

Where the Money Goes

United Way of New York City
1989-90 Allocations



your gift can be targeted toward specific service areas. Eighty-three cents of every dollar donated goes directly to the agencies helping people; 17 cents supports United Way administration. Some of the many services provided by these agencies include housing the homeless, counseling victims of family violence, supporting the elderly and shut-ins, and funding health care programs.

To encourage use of payroll deductions this year, a raffle of 27 prizes will be held on April 3. Winners will be announced in the April 5 issue of *News and Notes*. Everyone who decides to give via the payroll deduction plan is automatically eligible for the prizes, which include:

1. Two dinners for two with tickets to a university concert;
2. Two studio portrait sittings for an individual or family (includes color proofs and one 8"x10" and two 5"x7" prints);
3. Five Tower 17th floor or cafeteria meal-ticket books;
4. Two 17"x24" posters of the pencil sketch of the Rockefeller gate;
5. Five boxes of note cards bearing the Rockefeller gate sketch;
6. Six American Flag watches; and
7. Five 8"x10" color aerial photos of the campus.

For more information about the United Way, contact one of the 1991 United Way Campaign Committee members: Ray Aldrete (x8990), Scott Dougan (x7874), Thomas Fallon (x8200), Richard Galbraith (x7531), Robin Maloney (x7736), Bruce McEwen (x8625) or Michel Nussenzweig (x8067).

Helping with everyday needs

The United Way does more than assist the down-and-out. Their Information and Referral Service at 1-800-232-UWAY directs thousands to agencies that can help with many problems, such as finding home health care for the elderly, locating day care and after-school programs, or obtaining services for the disabled. The I&R line is available Monday-Friday, 8:30-5:30. (From outside N.Y.C., call 212-973-3913.)

New rules, new role for pharmacy



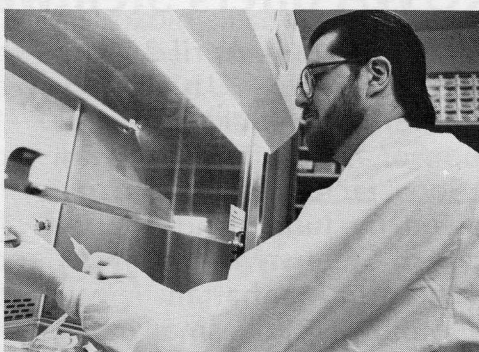
Bob Reichert

Carolyn Quan compounds a special formula

New state regulations have prompted changes in the way hospital pharmacies in New York, including the Rockefeller Pharmacy, dispense medications. According to Chief Pharmacist Philip Manning, the old "floor stock" procedures are being replaced with a "unit-dose drug distribution" system.

In a floor-stock system, medications administered to hospital in-patients were chosen by nurses from a stock cabinet on the ward. This procedure bypassed pharmacists, increasing the potential for medication errors.

Under the new unit-dose system, pharmacists dispense individually packaged and labelled doses of medications into a plastic box, or "cassette," for each patient three days a week. "Of course, this makes more work," says Manning. "What once would have been a simple matter of sending a 100-pill bottle up to a unit now may involve packaging, labelling and sending 100 different dispensations." Such a program, according to Manning, is expected to add 15%-20% to the cost of each dose, and thus significantly increase the cost of providing pharmaceutical services.



Bob Reichert

Philip Manning prepares a medication



Bob Reichert

Cecilia Cardona packages employee prescriptions

However, it does provide more control and safety for the patient because pharmacists review each order for appropriateness, assure there are no harmful interactions with other drugs the patient may be receiving, and provide overall monitoring of the patient's drug therapy. Under the new system, Rockefeller pharmacists also prepare all parenteral, or intravenous, medications in a sterile work station. The pharmacists will continue to compound the many special products used in research that are requested by Rockefeller doctors.

"The new system will provide our patients with the best pharmaceutical services available in a state-of-the-art facility," Manning said. ➔➔

Malaria (continued from page 1)

Assistant Professor.

The researchers discovered that the parasite makes hemozoin by linking the central iron atom of one heme unit with a carboxylate "side group" of another heme unit. The hemes are joined by this linkage into an inert product, thus allowing the parasite to continue feeding safely on hemoglobin.

Although iron-carboxylate linkages are common in metal chemistry, Slater says, "This type of structure has never before been described in a living system."

The researchers hope the uniqueness of the parasite's strategy may prove to be its undoing. They are now undertaking a search for the enzymes involved in constructing hemozoin. Once that is accomplished, Slater says, it may be possible to design new drugs that interfere with the enzymes' actions and thus block the parasite's ability to foil heme's destructive effects.

New therapeutic approaches are desperately needed to combat malaria, which afflicts 270 million people in Asia, Africa and South America each year, and kills 2 million of them. Until recently, drugs such as chloroquine effectively treated most cases of malaria. But, chloroquine-resistant strains of the disease are now common in many countries, and currently available alternative drugs are less effective or much more expensive.

"Ideally, what is needed is an entirely new drug strategy," Slater says.

—by Susan Blum

Announcements

ROCKEFOLLIES '91 is Tuesday

This year's ROCKEFOLLIES will be held in Caspary Auditorium on Tuesday, March 19, at 7:30. Tickets are \$5 each and are on sale today, Monday and Tuesday in the Tower Lobby between 11:30 and 2:00. Tickets will also be available at the door.

Sweatshirt Shop offers free caps

Just in time for spring and baseball season, the Sweatshirt Shop is offering a free RU-logo baseball cap with every purchase through the end of March. The shop offers an assortment of shirts, sweatpants, bags and other gear for adults and children. The shop, located in the tunnel near the laundry room, is open 11:30-1:30 on Tuesdays.

Gerd Blobel presents thesis

Graduate Fellow Gerd A. Blobel will present his thesis at 3:45 on Thursday, March 21, in Caspary Auditorium. A tea will precede the presentation at 3:15. The title of the thesis is "9E3 Gene Induction: Dissection of an Early Event in Mitogenesis and V-src Transformation."

News&Notes saves money and trees

An article in *News&Notes* can assure the success of a campus event—and save money, too.

But that's only true if the article in *News&Notes* replaces a campus-wide mailing. It costs about \$140 just to photocopy a single page for everyone on campus. The cost of labelling, and labor, runs the bill up even higher.

And—paper is wasted, trees chopped down, less oxygen is produced for the atmosphere, trash baskets overflow, the city spends more on trash removal and landfills get even more overburdened.

Puppetworks mesmerizes audience

Like most New Yorkers, four-year-old Alexander Reichert usually avoids strangers, but he couldn't resist a conversation with one of the many marionettes who performed in Puppetworks on Saturday, March 9. The well-attended event, held in Caspary Auditorium, raised over \$1,500 for the Children's School.



Bob Reichert

RUWA offers Steinway tour

On Tuesday, April 23, the Rockefeller University Women's Association will sponsor a tour of the Steinway & Sons' factory in Astoria, followed by lunch and a brief tour of Steinway Hall on W. 57th St. in Manhattan.

Steinway spokesman Doug Larson said the tour will not be a demonstration—the factory will be operating as usual, and the group will be observing its normal work day. He emphasized that visitors should be prepared to climb four flights of stairs during the 3-hour visit. Elevators are not available, and the site is not wheelchair-accessible. Children under 10 are not allowed; teenagers must be accompanied by an adult. Following the tour, Steinway has arranged bus service to Steinway Hall on 57th Street. The

program should conclude around 1:30.

Members of the university community are invited to attend this free event, which is limited to 49 persons. According to Betsey Wilder Deleuse, chairperson of the program, reservations will be on a first come, first served basis. Information flyers and sign-up sheets will be distributed campus-wide shortly. The RUWA hopes to arrange a second Steinway tour in the fall. →

No News & Notes March 29

There will be no *News and Notes* on March 29, so announcements for the week of April 1 should be submitted by 5:00 Monday, March 18, to be included in next week's issue.



News&Notes is published on Fridays throughout the academic year by the Public Affairs Office of Rockefeller University. Suggestions for articles are welcome and may be sent to Box 68, or call 570-8967. Articles may also be submitted via electronic mail to *newsnotes*. The deadline for each Friday's issue is the preceding Monday at 5:00 p.m. The Rockefeller University is an equal opportunity employer and has an affirmative action program to increase the employment of women and members of protected groups at all job levels. Editor: Robert Brown. Designer: Patricia Sadiq.