NONFICTION: Environmental

What is mangling the frogs?

By PHILLIP MANNING n a warm summer day in 1995, Cindy Reinitz took her middle-school class on a field trip to a farm just outside Henderson, Minn. The 600-acre mosaic of bucolic woodlands, prairie and farm fields entranced teacher and students. As they strolled toward a pond, hundreds of small frogs leaped from beneath their feet. The kids began grabbing at them. Jeff Fish, a freckled-face 13-year-old, caught the first one; it was missing a hind leg. On that day, the students caught 22 frogs. Eleven of them were deformed.

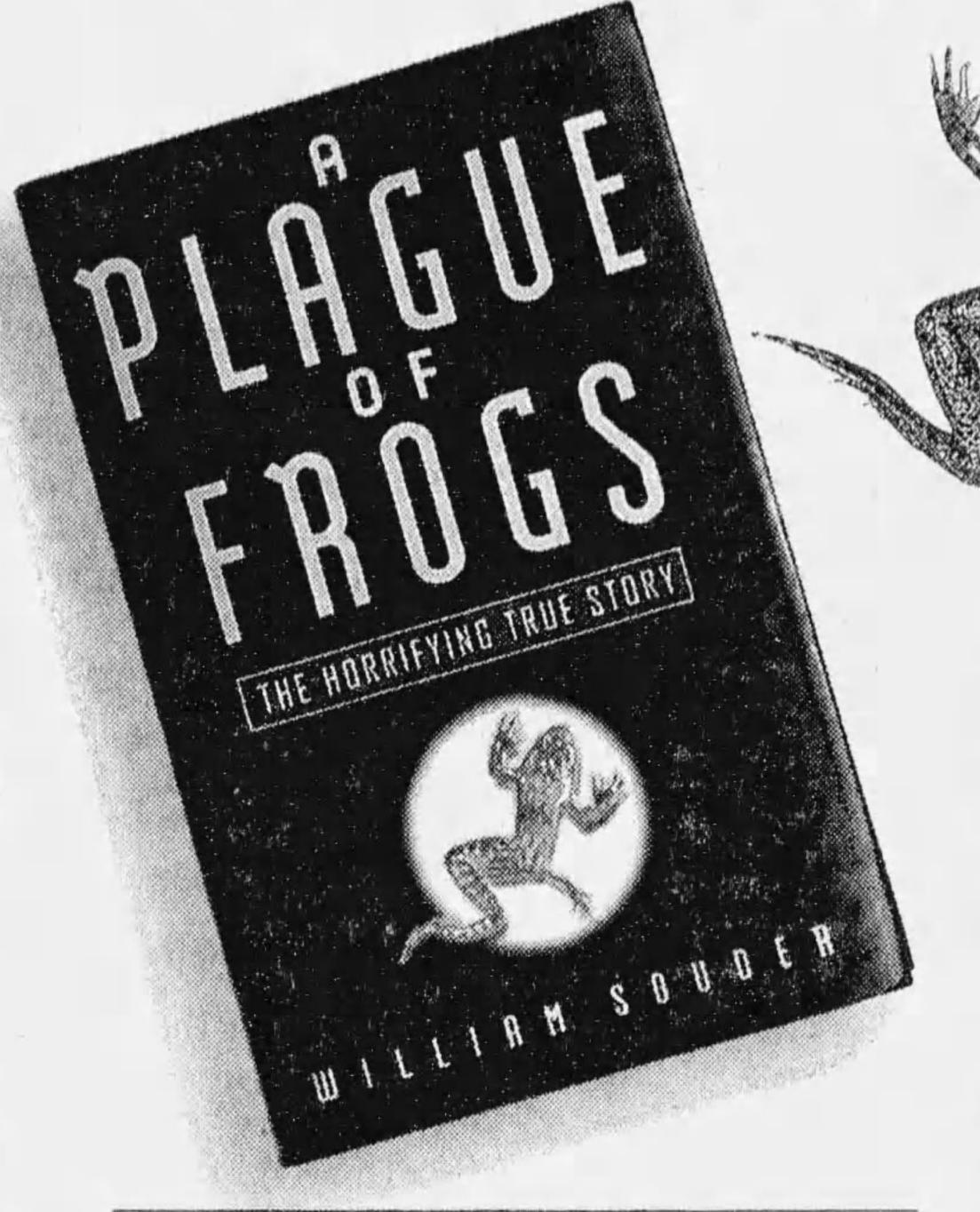
Reinitz contacted the Minnesota Pollution Control Agency, which dispatched a herpetologist to the site. Twenty percent of the frogs he collected were missing legs or were cruelly deformed. One frog he examined appeared to be missing an eye. But the herpetologist eventually found it dangling from a fleshy stalk attached to the roof of the frog's mouth. A few weeks later, frogs with five or more legs were reported in another Minnesota lake. During the next two summers, huge numbers of deformed frogs were found all over Minnesota, in many other Northern states, and in Canada.

Soon, the local and national media were reporting stories that focused on two questions: Were the malformed frogs a harbinger of environmental disaster, and could the cause of their problems endanger us?

But as William Souder, who covered the story for the Washington Post, recounts in "A Plague of Frogs," scientists could only begin to answer those larger questions by addressing a smaller one: What was mangling the

His well-written and informative book tells the tale of the frogs and the very different approaches researchers took to discover what was crippling them. Nowadays, we expect science to be able to answer every question, but Souder reminds us that even seemingly small problems are difficult to solve. And environmental problems are especially hard because — unlike in a laboratory — they involve many variables that cannot be controlled.

FICTION: Popular



A Plague of Frogs: The Horrifying True Story

BY WILLIAM SOUDER Hyperion. \$23.95. 299 pages.

Gradually, the scientists broke out into three camps. One group believed that a parasite was causing the problem. Pieter Johnson, a senior at Stanford University, surveyed 15,000 amphibians taken from 35 ponds in California. At four of the ponds, 25 percent to 45 percent of the frogs were malformed. The other ponds yielded only normal frogs. Johnson found that the four affected ponds were the only ones that harbored a parasite known to cause deformities in frogs. When he examined the deformed frogs, he invariably found parasites. He then confirmed his field work in the laboratory. He added parasites to water containing normal tadpoles and was able to produce the same deformities he observed in the field. Parasites, he concluded, were the problem. Case closed? Not

While Johnson was studying frogs in California, Joe Tietge, a scientist at the Environmental Protection Agency, was conducting a series of experiments using ultraviolet (UV) radiation. He showed that tadpoles exposed to UV radiation developed into deformed frogs. Of course, tadpoles have been exposed to UV rays from the sun for millions of years. What was new? Was the thinning ozone layer admitting more UV radiation? Some investigators thought so, but there was no proof that this was what was occurring in the wild. Still, Tietge's research established that UV rays could create the kinds of deformities observed in the field.

The third theory came from Quebec. Three years before deformed frogs were discovered in Minnesota, Martin Ouellet, then a 23-year-old graduate student at McGill University in Montreal, found a frog with a withered hind leg in a farm pond near Montreal. Frogs became his passion. By 1997, Martin Ouellet had examined more deformed frogs than anybody else in the world, all of them caught in the heavily agricultural area along the St. Lawrence River. One day, in a single wetland surrounded by farm fields, he caught more than 100 frogs, and about 60 percent of them had missing, mangled or extra legs.

He searched out pristine locations, far from any farms, to use as control sites. He found no deformities in the frogs at these sites. Martin Ouellet suspected — no, was certain — that the problem was pesticides. When confronted with the parasite data, he shrugged it off. Parasites are everywhere, he said. "But deformed frogs are not

everywhere. Why do I not see these missing legs in my control sites?" It was a question

no one could answer.

Perhaps, Souder suggests, the case of the deformed frogs is just one piece of a bigger puzzle. Amphibians around the globe are in decline. Frogs are disappearing from pristine areas, from agricultural areas, from everywhere. From Canada to Costa Rica, from Japan to Germany, frogs are vanishing from the earth. One Minnesota lake had hundreds, perhaps thousands, of mink frogs when the first abnormalities showed up in 1995. A year later, there were fewer mink frogs, and half of them were deformed. Three years after that a professional herpetologist could find only 16 mink frogs at the site, all grotesquely deformed.

What is happening to the frogs? Everything. Global warming caused the extinction of the most famous (and most beautiful) frog in the world — the golden frog of Costa Rica. There is little doubt that parasites and pesticides are playing a role, as is increased UV radiation. One scientist said he thought the ultimate cause of the frogs' decline was due to "a convergence of environmental misfortune." And he was almost certainly right.

Souder nicely pulls together all the suspects in the frogs' decline, which is what makes this book valuable. "The frog," he writes, "has sensed a change, a displacement in the order of life as we know it. We may be responsible, in part, for causing this change. And we may be the next to feel it. The frog is telling us something. Will we listen?"

Phillip Manning is a science and nature writer from Chapel Hill. His most recent book, "Islands of Hope," won | the National Outdoor Book Award.

THE NEW YORK TIMES

FICTION

- A DAY LATE AND A DOLLAR SHORT, by Terry McMillan.
- A DARKNESS MORE THEN NIGHT, by Michael Connelly.
- 3. FROM THE CORNER OF HIS
- EYE, by Dean Koontz. 4. THE FIRST COUNSEL, by Brad
- Meltzer.
- 5. SPECIAL OPS, by W.E.B. Griffin.
- 6. THE MARK, by Tim LaHaye and Jerry B. Jenkins.
- 7. LOST AND FOUND, by Jayne Ann Krentz.
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- From the Diaries of Tabitha Lenox. 9. PROTECT AND DEFEND, by
- Richard North Patterson.
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- Maryanne Vollers. 3. THE O'REILLY FACTOR, by Bill
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- . TUESDAYS WITH MORRIE, by Mitch Albom.
- 5. THE DARWIN AWARDS, by Wendy Northcutt.
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Taking a page from Jerry Springer's book disenchanted with each other, as 'cause she always determined to change her life and — a lie told by her

By Mary B. Smith he characters are all too familiar: the meddling mother, the philandering father, the self-absorbed children. They are a mainstay of popular culture, the bread and butter of soap operas as well as reality programs such as "Jerry Springer" and "Sally Jessy Raphael." From the comfort of our couches we goggle and giggle as these real-life caricatures of dysfunction bemoan their failed relationships with their lovers, their spouses, their siblings and their blankety-blank kids. As they wildly vent their anger and frustration, we laugh at their antics but never think about them; we condemn their foolishness but never wonder how these people became so angry.

These are the prototypes for characters in Terry McMillan's fifth novel, "A Day Late and a Dollar Short." As such, her book has great promise, for good fiction does not allow us merely to gape at strangers. It makes us enter their worlds. Page by page we become involved in their lives; we are privy to their secrets, their fears, their hopes, their desires. We learn what makes them cry, laugh, love, hate; we learn what makes them attractive or repulsive. We confront their humanity.

Unfortunately, McMillan renders the members of the miserable Price family, a clan truly

paper cutouts whose four-letter words erupt from their mouths like those in a cartoon balloon. Like the guests on Jerry Springer, they are lopsided figures. We see too much of the resentful, unattractive side, too little of the vulnerable side. Although her dialogue often crackles with life, we expect more than just griping and grousing from characters in a novel.

Viola, the 56-year-old matriarch, gives us a clue to the family's disaffection in the novel's first sentence: "Can't nobody tell me nothing I don't already know." Oops. A sister with an attitude. Through the years, it has permeated the family, enveloped it like a mist rising from a swamp. We meet Viola, hospitalized by a severe asthma attack. She suspects it was brought on by her children, who "get on her nerves," and the latest antics of her husband, who has recently left home. While she is incapacitated, she reflects upon her life.

Cecil, her husband, was the first man who was kind to her, when she was 16. She got pregnant and married him. The baby was followed by three more so quickly that they were "like a litter." As for her children: "Paris is a female lion who don't roar loud enough, Lewis is a horse who don't pull his own weight, Charlotte is definitely a bull, and Janelle would have to be a sheep — a lamb is closer to it —

being led out to some pasture and don't know how she got there."

The bulk of the

novel amplifies this thumbnail sketch of the family. Through a series of interior monologues Viola's husband and each of their children tell us their reactions to their mother's illness, the inconvenience they suffer because of it, and their overwhelming disdain of each

First to greet us is Cecil, who dyes his hair black to make himself look younger, but who feels like a middle-age old man. He is walking across the hospital parking lot in a drenching rain, wondering if his wife deliberately had the attack to get some attention. Next we meet Lewis, who feels his life isn't as messed up as his family sees it. He is on disability because he has rheumatoid arthritis, and nobody in the family knows that or much of anything else about him. Now we meet Paris, the oldest daughter, who has heard a lot of lies about herself — "I heard I was a lesbian"

Terry McMillan

A DAY LATE and a DOLLAR SHORT



A Day Late and a Dollar Short

BY TERRY MCMILLAN

Viking. \$25.95. 432 pages.

when she was young. Next we meet Janelle, who is finding it hard to cope with the problems of her adolescent daughter, Shanice; the weirdness of her husband; and the ill-

looking out for them

ness of her mother. Finally we listen to Charlotte, who is having a major problem with her husband, Al — again — and wants to go back to school to better herself.

Wielding their tongues like switchblades, they cut each other up and cut each other down. They seem unable to extricate themselves from their miserable circumstances; they are weighed down by them with eyeballs rolling, lips poked out like unruly children. We begin to think that they are lost

But Viola has a plan for redemption. Her illness has made her

her family's. She writes letters to sister, and that she each of them to be read aloud when "has terrible taste in the family comes together on men" — one told by Thanksgiving. Through this airing her mother. She conof grievances, she hopes they siders herself more might come to understand and persensible, hard-workhaps even forgive each other for ing and resourceful the years of misery they have than her siblings. caused and endured. It is a simple Her resentment stems from having solution, much like the philosophihad the burden of cal wrap-up Jerry Springer

> provides at the end of each show. Some McMillan fans might enjoy this novel about gritty, fast-talking women snapping out in a hostile world. "A Day Late and a Dollar Short" does have energy. But McMillan's failure to take her characters seriously, to give them mouths but not hearts or minds, reminds us of tabloid TV rather than literature.

Mary B. Smith, who lives in Philadelphia, has written two novels, "Miss Ophelia" and "Ring Around the Moon."

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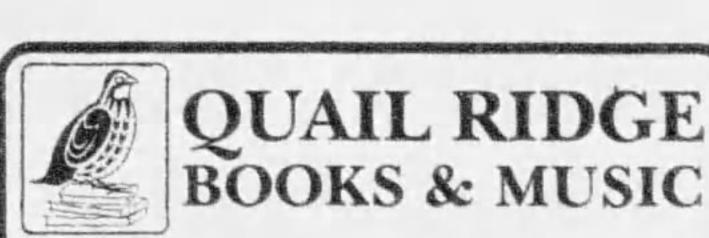
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provocative information about pro-Nazi espionage activity at the station and along the Jersey shore. Jack wheedles a job at the station writing and producing entertainment scripts so he and Holly can covertly try to track down her missing father. Author Dunning, who is also a

respected historian of early radio (see his 1998 "On the Air: An Encyclopedia of Old-Time Radio"), proceeds to graft a beguiling backstory onto his main mystery, vividly reproducing the mad mix of experimentation, innovation, spontaneity and conflicting ambition that characterized small-town radio in the '40s.

That extra layer adds vitality to characters who seem too stock during the first third of the novel. - Jack really comes alive when he

finds his writer's voice at the station and begins to see the possibly lethal connections between what he's writing and what's going on around him. "His concept of the reader had been fading. ... (Now) he was writing for the listener. He understood demands and restrictions that had never before given him a conscious thought and he saw the story anew."

And how. As Jack's ostensibly made-up scripts for WHAR radio dramas begin to touch some sensitive nerves among station veterans, it becomes increasingly clear to Jack and Holly that whatever happened to her father has ties to something big and dangerous that extends well beyond Regina Beach. And then a homicidal maniac goes to work literally right

outside the studio door.

Although "Two O'clock, Eastern War Time" has its longueurs of plot and occasional moments of melodrama, it remains for all that a ripping good period yarn that's got A&E miniseries written all over it. I'm seeing Nicolas Cage and Helen Hunt in starring roles.

Short takes

Evan Hunter teams up with himself (i.e., his alter ego, "87th Precinct" series author Ed McBain) in "Candyland" (Simon and Schuster, \$25, 302 pages), a novel in two parts that should be subtitled "A Gimmick Too Far." In Part 1, Hunter recounts the kinky exploits of a sex-obsessed L.A. architect. In Part II, McBain follows vice cops investigating a hooker's rape and murder that might involve the architect. Each part is tedious,

cynical and implausible — together they form a mess ... California writer Michael Connel-

ly succeeds in a similar venture by

pitting two lead characters from previous novels against each other in "A Darkness More Than Night" (Little Brown, \$25.95, 417 pages). Connelly begins with two crimes: Harry ("Angels Flight") Bosch is looking into an actress' murder while Terry ("Bloodwork") McCaleb is investigating a loner's mysterious demise. Connelly deftly connects the two cases and has his two heroes learn that they must shelve their conflicting egos to solve their cases ...

Megaseller Jeffery Deaver triumphs with a taut, diabolical tale of revenge, "Speaking in Tongues" (Simon and Schuster, \$25, 323 pages).

beyond hope.