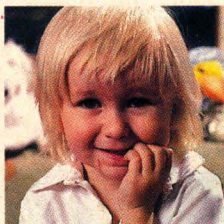


DISCOVER

The magazine of science and technology:
their wonders, their uses, their impact on our lives

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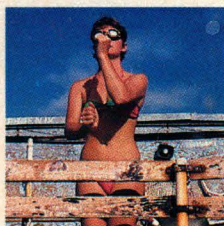
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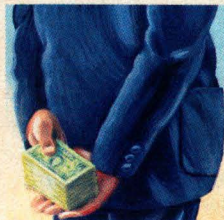
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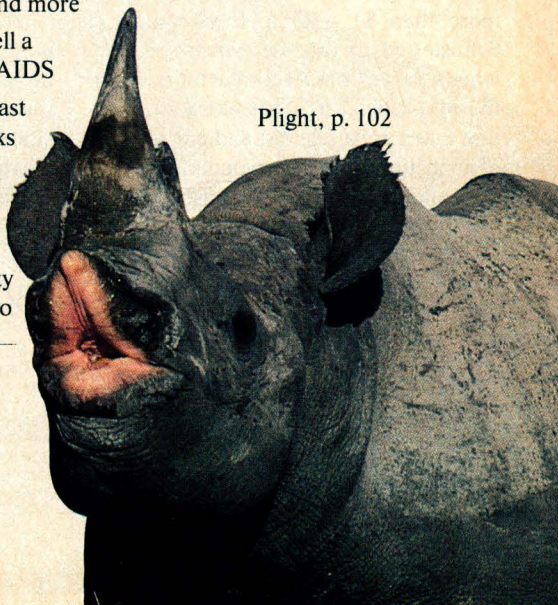


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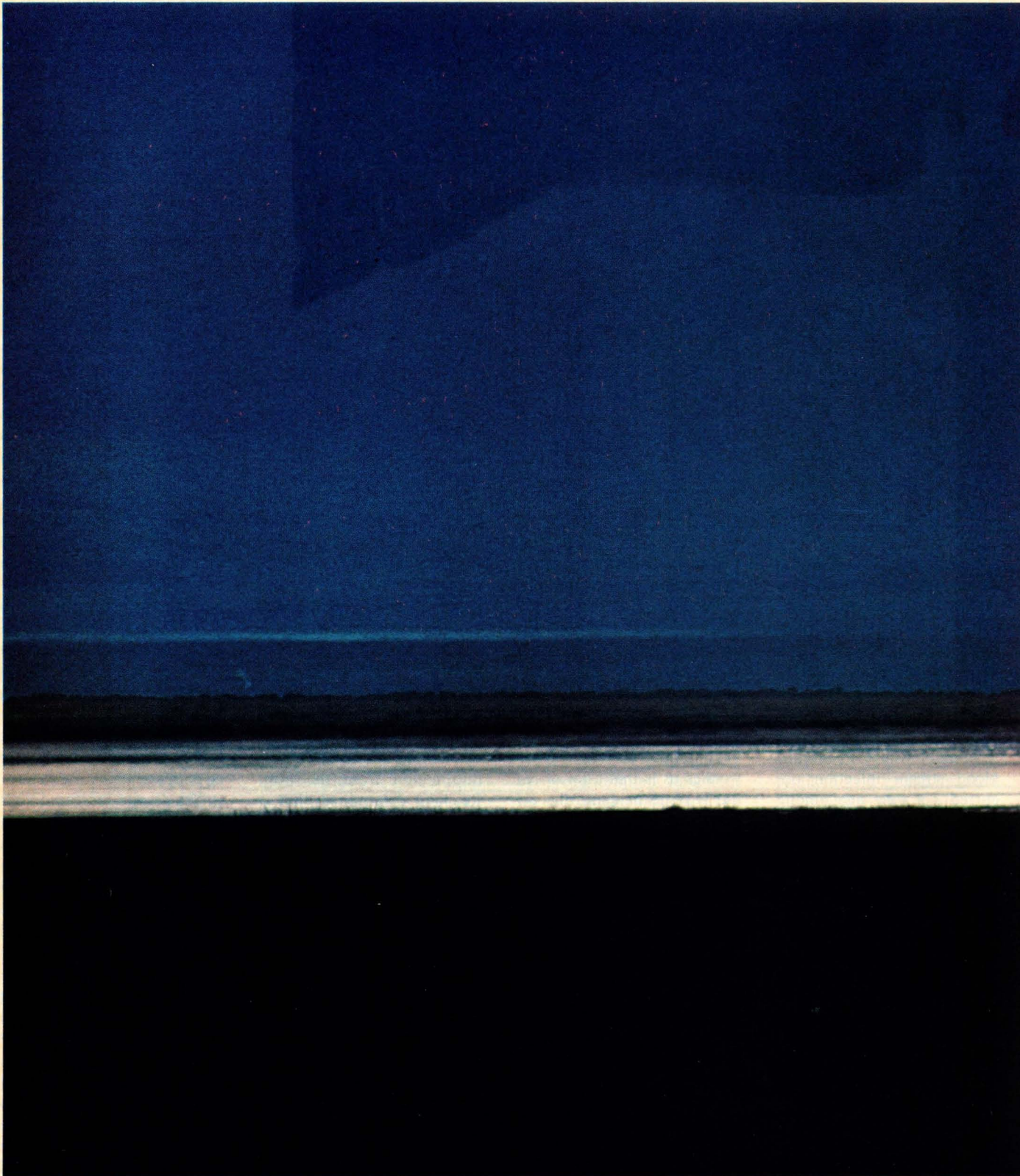
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COVER: Painting by Gary Overacre



THE LAST STAND

BY DAVID WESTE



A solitary black rhino beside Tanzania's Lake Makat symbolizes the species' plight.



In the Chinese pharmacies of the Far East, among the pickled snakes and tiger penises, is an ancient fever-depressing drug worth its weight in gold. At \$11,000 a kilo (2.2 pounds), you would expect it to work like a charm. Yet clinical tests show that rhinoceros horn is as useless in this regard as biting your fingernails. Since both are made of keratin, that's hardly surprising.

In North Yemen the jambia, a ceremonial dagger ornately gilded and studded with jewels, symbolizes manhood and wealth. Its carved and burnished rhino-horn handle is no better than the cow or buffalo horn used by lesser mortals. But as with jewels, what counts is price, not function. And the price was so high that until recently only a few Arabs could afford rhino horn. Today, thousands of Yemenis, enriched by Saudi Arabian oil jobs, return home with an eye for luxury goods, especially jambias. Surprisingly, few Yemenis even know what rhinos are, and often confuse them with giraffes. That makes it all the more tragic that jambias now account for half of Africa's rhino deaths.

If the origins of the Chinese and Arab reverence for rhino horn are obscure, its impact isn't. It has spurred a commercial trade quite as devastating to rhinos as the meat and hide trades of the nineteenth century were to the American bison. Yet despite the international hullabaloo over the slaughter, despite millions spent on anti-poaching measures, despite a nearly universal trade embargo, rhinos are rushing to extinction faster than any large mammal in recent history.

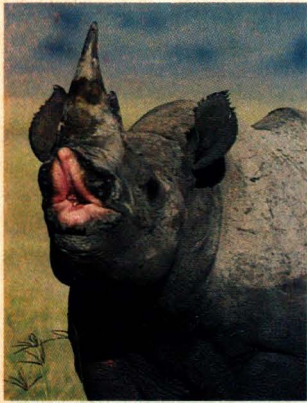
If, as some biologists claim, we're losing a species a day and stand to lose 15 to 20 per cent of all animal species by the year 2000, why should we worry about the ungainly rhino? Sounding the rhino alert seems like firing off a pistol in the middle of a 21-gun salute. Yet there *is* a difference.

For a start, rhinos are hardly new candidates for the biological scrap heap. Asia's three species have been under the gun for decades. The Javan rhino is down to 65 animals, the Sumatran to 500, and the Indian to 1,700. Africa's southern white was reduced to around a hun-

David Western is a Kenyan wildlife ecologist who has been in the forefront of the effort to save Africa's remaining rhinos and elephants.

**Slaughtered for its horn,
the black rhino is plunging
toward extinction. It can
be saved—if we act now**

Letting rhinos slip over the precipice is in effect condoning an avalanche of extinctions



The black rhinoceros, a herbivore like all rhinos, crops leaves and branches by means of a prehensile upper lip.

dred early this century. So there's been plenty of time to do something about the predicament now facing Africa's black rhino.

But, more to the point, losing the dramatic and universally recognized rhino is hardly like losing an obscure forest insect. Rhinos are conservation "flagships" symbolizing our commitment. Letting them slip over the precipice of extinction is tantamount to condoning an avalanche of extinctions.

So far Africa's rhinos aren't in such precarious shape as Asia's. The black rhino numbers 8,000, the white 3,000. But head counts can be deceptive. The real dimensions of the crisis are measured by population trends and loss of range.

The black rhino, to judge from its original distribution and former densities, must have numbered in the hundreds of thousands less than a century ago. In the 1940s the British shot them by the thousands to make way for settlement schemes in Kenya. Then, in the early 1970s, the price of rhino horn rose sharply, from \$35 a kilo in 1974 to more than \$500 in 1979. Poaching quickly got out of hand. By 1979, when the International Union for the Conservation of Nature (IUCN) and the New York Zoological Society made the first thorough continent-wide estimates, only 15,000 black rhinos remained in Africa. The crisis prompted the World Wildlife Fund's Year of the Rhino and a flurry of emergency conservation measures.

For a time it seemed as if money and attention had stayed the slaughter. But surveys I recently completed for IUCN and the New York Zoological Society show otherwise: since 1979 Africa's black rhino population has been reduced by half, possibly far more, and the northern white, numerous a decade ago, is virtually extinct, except for 13 besieged individuals in Zaïre's Garamba National Park.

These numbers are numbing enough. Range fragmentation makes the rhino's plight even worse. Most surviving black populations have fewer than 30 individuals, and many few or no males. Tiny scattered groups are almost impossible to protect and prone to severe inbreeding, and consequently to lowered reproductive vitality.

There's just as little hope for the few remaining big populations. Tanzania's Selous Game Reserve has maybe 3,000 black rhinos. Zambia's Luangwa Valley, Zimbabwe's parks, and Kenya's highlands each have a few hundred, but all are under heavy pressure and, if poaching continues at present levels, they'll lose most of their animals over the next five years. Indeed,



REINHARD KUJVEL (2)

The rhino tolerates the ox-pecker, a species of starling, which cleans it of parasites.





This black rhino was killed by poachers in Zambia's Luangwa Valley. A hyena probably ate the ear.

surveys and reports in recent months hint that Selous may already have lost half its population. That would be in line with the situation in the Central African Republic, which has lost all but 150 of its 3,000 rhinos in the last four years. Understaffed, underfinanced African wildlife departments cannot hope to patrol huge areas intensively enough to save them.

Other biological losses are more subtle but equally damning for future recovery prospects. Seven black rhino subspecies, each perhaps differently adapted, range from the withering deserts of Namibia's Skeleton Coast to the freezing moorlands just below the snow line of Mount Kenya. Four of the seven are nearly extinct, down to a few dozen animals scattered over hundreds of thousands of square miles. Lose them, and it may be impossible to reintroduce the non-adaptive stock into alien habitats later on.

Captive propagation can preserve a species when all hope is lost of doing so in the wild. The peregrine falcon in the U.S. and the Arabian white oryx, a large horned antelope being reintroduced in the Middle East, are good examples. Yet even in captivity, the black rhino foils conservation efforts. Fewer than two hundred are scattered throughout world collections, and they're losing ground through poor breeding performance and high infant mortality. Worse still, it costs at least \$8,000 a year to keep a rhino in captivity, so that reckoning on a minimum of 250 animals to avoid inbreeding, it will cost nearly \$2 million annually per rhino species, \$10 million for all five. There'll be little room in the Ark for subspecies.

Many conservationists see runaway human population growth as the root of the problem. With Africa's population doubling in twenty-five years, that's a persuasive argument. But, contrary to expectations, most rhinos are lost in big preserves remote from human centers; they're safest in small suburban parks where, as in zoos, animals find safety in human numbers.

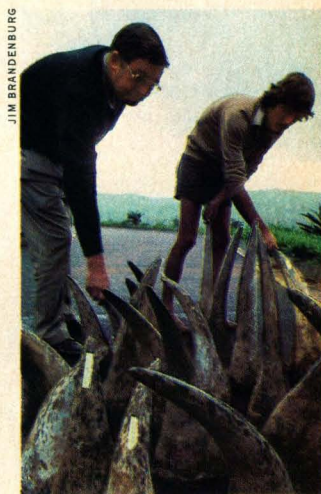
The rhino's demise stems from a jarring mix of prosperity and poverty. Asia is getting richer by the year and can afford astronomical prices for horn, while Africa is getting poorer and more desperate. Easily killed, a single rhino will

support the average African for a year or two—not from its meat, which is usually left to rot, but from its horn (for which a poacher gets about \$200 to \$400). The Sahelian drought has spurred the poaching that has virtually eradicated the black rhino. Fewer than 500, down 90 per cent in five years, remain in the northern drought-prone third of their range, which includes three subspecies. They'll almost certainly become extinct in three to four years.

What are the chances of doing anything to end the slaughter? The best hope, according to many African countries, including Tanzania, Kenya, and Zambia, which jointly hold 60 per cent of all black rhinos, is to concentrate on a few salvageable focal populations.

Kenya has been especially hard hit by poaching. In 1970 we had 20,000 rhinos. Today there are 550. Because rhinos are the emblem of our national parks, we recognize that if we can't save the rhino, we can't save anything. We have, for that reason, embarked on a last-ditch stand to save black rhinos. The widely scattered and unprotected populations will be consolidated into a few safe, closely protected sanctuaries. The effort will cost more than \$2 million. Because Kenya can ill afford to carry the burden alone, it expects to raise half internationally. "We have not cried wolf before, and the wolf is definitely at the door," says Daniel Sindiyo, director of Kenya's Wildlife Department.

The black rhino can be saved, but only through such drastic measures as Kenya's, and only with the financial and moral support of the developed world. There are precedents for such a rescue. The southern white rhino rebounded from 100 or so animals to more than 3,000 today, largely because of South Africa's tight control over one or two populations. And the international community has succeeded in curbing the fur and skin trade that threatened the African leopard and Nile crocodile, respectively. Both species are now making a comeback. Similar concerted international action in slashing the rhino horn trade in the remaining importers—North Yemen, Taiwan, South Korea, Singapore, Macao, and Brunei—could open the way for a black rhino recovery. □



Poached rhino horns seized by rangers in one of South Africa's Natal parks (top). Daggers with rhino-horn handles for sale in North Yemen.

The reason for the rhino's demise is a jarring mix of Asia's growing prosperity and Africa's desperate poverty