

The Price of Gold

The most striking feature of its long history is that gold led most of the protagonists into the ditch.

—Peter L. Bernstein

Gold is the ultimate paradox. Is it merely a yellow material that we happen to use a lot for coins, jewelry, and dentures? Can it be adequately defined as a dense, lustrous, precious metal that is an element, Group Ib, Period 6 in the periodic table? Is it money, lucre, wealth, something to hoard. Or is it a sacred substance, symbolizing the sun and possessing the power to purify? Goldsmiths and artisans around the world esteem it as the most beautiful and desirable of metals; warm and glowing, malleable, ductile. Its permanence, its durability and resistance to corrosion immortalizes their labor. But it is also a commodity, a costly raw material with a fluctuating price that often serves merely as a vehicle for easy profit.

The flow of gold throughout history has caused us to be obsessed, intoxicated, inspired, and exalted. It has, from the beginning of history, been a dream, a myth, a symbol of something beyond itself. In *The Power of Gold: The History of an Obsession*, economist Peter L. Bernstein recounts how it has, for 3000 years, excited and motivated peoples and cultures, determined the fates of leaders, destroyed economies, prompted inhuman acts, and "driven people to intense hardship in the hope of finding instant wealth beyond all sense of rationality." ¹ In the end, he says "... gold has stirred the passions for power and glory, for beauty, for security, and even immortality. Gold has been an icon for greed, a vehicle for vanity and a potent constraint as a monetary standard" ...and notes that no other substance "has commanded so much veneration over so long a period of time." ²

While gold's mystique is indisputable, we must resist being so entranced by its luster that we fail to recognize and consider the realities of gold at the beginning of the twenty-first century. The ecologic, economic, social, and political price of gold is far costlier that we imagine. We are in the midst of a new gold rush, one that is consuming wilderness areas, contaminating watersheds, destroying ecosystems, and imperiling the economies of poor nations and the well-being of indigenous people throughout the world. Some cumulative, irreparable consequences of mining will be with us, in this country and around the world, forever.

This new gold rush is the result of a converging complexity of circumstances on a global scale, including: 1) the development of highly effective and extremely toxic methods of gold extraction, 2) a continual rise in worldwide demand for gold, 3) the demise of gold as global monetary standard, 4) the continued withholding of enormous stockpiles of gold in the vaults of national banks, and 5) huge, multinational corporations very eager to cash in.

Over the last few decades a number of factors have contributed to very significant changes in mining practices. World gold production in 1950 was 879 metric tons. In 2000 it was 2,540 tons. The grizzled old prospector working his claim is no more. While a significant number of small mining operations do continue to operate in third world countries, 45% of the gold produced today comes from vast, open pit mines owned by a handful of big companies. The average amount of waste produced by open pit mines is 10 times that of underground mines. In 2000, gold mining in the United States produced 353 tons of gold and more than a billion tons of contaminated waste rock. In a scale we can better understand, one gold ring generates, on average, 35 tons of waste rock.

Cyanide

Expanded mining activity as well as the increased amount of waste that is generated are due largely to the development of a process for extracting gold, *profitably*, from very low bearing ore. The process, known for a century but first used here in the 1960s, is now responsible for 85% of gold produced. It has revolutionized the mining industry because up to 97% of the gold can be obtained from very low-grade ore. The process is based upon the use of cyanide to leach the metal from crushed rock.

Cyanide is as toxic as it sounds. Short-term exposure to high levels harms the central nervous system, respiratory system and cardiovascular system. Even very small concentrations kill fish, birds, and plant life. Massive quantities of this deadly poison, more than 2 million pounds annually, are used in this country for cyanide leaching.

In heap leaching, finely ground rock (or tailings from earlier mining) is piled up on plastic sheets and continually sprayed with a solution of sodium cyanide. The runoff, or "pregnant solution," is collected in "pregnant ponds," then filtered through activated carbon to collect the gold. The leftover solution is stored in "barren ponds." These ponds average one acre. In vat leaching, cyanide is mixed with crushed ore in large enclosed vats where gold bonds to added carbon. After removing the gold, the spent ore (tailings) and cyanide are sluiced to a mill tailings pond. These open ponds of cyanide-laced debris may cover 200 acres and remain as long as the mine is active.

The use of cyanide in mining poses an unreasonable risk of permanent environmental damage. Under ideal conditions, consisting of a neutral pH and the presence of oxygen and sunlight, cyanide breaks down into other, less toxic, compounds. However, under alkaline conditions it doesn't, and under acidic conditions cyanide gas is formed. The plastic liners that are placed under the ponds and heaps pose a risk for this reason. Like your average garbage bag, seams may break, they can be punctured and may deteriorate, leaking the cyanide solution into the ground, where it cannot break down. If it contaminates underground water, there is no known way to get rid of it.

Ponds attract migratory birds, bats and other wildlife and many thousands have been killed. While the US Fish and Wildlife reports successful "teaming" with several mining companies to look for solutions, which have included preventing toxic solutions from collecting, netting ponds, and installing cyanide recovery systems to treat mine wastes, **3** there are, today, no environmental standards in place.

Tailings ponds are created with earthen or wooden dams and are subject to accidental spills, discharges, dam overflows, and water runoff. Cyanide is highly reactive with heavy metals, which are often significant components in the damage resulting from this type of events. Over and over again, failures to contain toxic waste have resulted in catastrophe. In perhaps the worst case of reckless mismanagement, called by some "the Exxon Valdez of the American mining industry," a lethal combination of cyanide and heavy metal leaks from the Summitville Mine in southwestern Colorado killed all aquatic life along a twenty-seven kilometer stretch of the Alamosa River. (Containment and cleanup were estimated to cost our government \$80 million, as the mining company went bankrupt.)

In 2000, an overflowing tailings dam at a mine in Baia Mare, Romania released an estimated 50-100 tons of cyanide (as well as heavy metals) into the Somes, Tisza, and Danube Rivers, flowing 250 miles before eventually reaching the Black Sea. It contaminated drinking water used by 2.5 million people. Thousands of tons of fish were killed and a significant portion of the Tisza River was rendered undrinkable and effectively dead. The severe negative impact on biodiversity, the rivers' ecosystems, the drinking water

supply, and the socioeconomic conditions of the local population have resulted in it being named the worst environmental catastrophe in Europe since the Chernobyl nuclear plant meltdown in 1986.

The use of cyanide-based processes for extracting gold has been barred in only three places in the world. In 1997, the community of Bergama, Turkey, won a legal ban on cyanide, after convincing the highest administrative court that a large-scale mining operation in their town was at odds with the Turkish Constitution and its guarantee of a healthy and intact environment. After years of suffering dozens of toxic leaks from mines, voters in Montana approved a ballot measure in 1998 prohibiting new open pit gold and silver mines that use cyanide as an ore processing agent. And in August 2000 the Czech Senate passed an amendment to the government's geology bill that will ban the use of cyanide heap leaching technology by the gold mining industry. **4**

Mercury

While the wide-sale use of cyanide is a relatively recent development, mercury has been used for centuries as a cheap and easy method to extract gold. Like cyanide, it is a deadly toxin. Once mercury enters the environment, its vapors become trapped in the atmosphere, precipitate onto the ground, and run into the water supply. When exposed to organic matter, methyl-mercury is formed. This compound is stored in animal fat and accumulates over time, reaching levels in fish that can be thousands or millions of times higher than in the river. There is no end in sight to this legacy of the California Gold Rush, or its use in developing countries.

Mercury introduced into the lakes and rivers of California during the 1849 Gold Rush, estimated to be 7,600 tons, is responsible even today for 50% of exposure in the San Francisco Bay area. **5** Eating fish from lakes and rivers in the Sierra Nevada Range is not recommended. Mercury can cause serious brain and nerve damage. The Latest U.S. Center for Disease Control figures indicate that 8% of US women of childbearing age have mercury levels so high that their developing babies are at risk of neurological damage. **6**

Mercury is still used by small-scale artisanal miners because it can extract as much as 60% of the gold. It is mixed with gold-bearing mud and gravel into an "amalgam," which is then burned out with a torch or even over an open fire, releasing mercury vapor into the atmosphere and exposing miners and bystanders to toxic fumes. As much as 95% of all the mercury used in artisanal gold mining is released into the environment.

An estimated 13 million people work as artisanal miners throughout the world in at least 30 countries in Latin America, Africa, and Asia. They produce about a quarter of the worlds total gold output, primarily using mercury. It is estimated that in the last 30 years, 2,000 metric tons of mercury has been used to extract gold in one of the world's most productive as well as fragile regions, the rainforests of the Amazon. **7** Thirty percent of miners recently tested in Brazil showed mercury levels above the allowable World Health Organization limit, and there are reports that indigenous children are showing decreased performance in tests, an indication of damage to the central nervous system.

Regulation

Knowing this, one would assume that mining would no longer be permitted to contaminate US watersheds with mercury. Unfortunately, this is not the case. Each year the hardrock mining industry legally releases 3.1 million pounds of mercury into the environment. The EPA names the hard rock mining industry as our nations top polluter, turning out (in 2001) 3.4 billion pounds of toxic waste, including 366 million pounds of arsenic and 355 million pounds of lead along with the mercury. This is more than the output of power plants and all other industries in the U.S. combined. There are no environmental standard for hardrock mining under the 1872 Mining Law.

Signed into law by Ulysses S. Grant, the General Mining Law, or Hard Rock Mining Act of 1872, was designed to encourage settlement in the west and promote the small scale pick-and-shovel mining of hardrock minerals such as gold. Still in effect, it applies to more than 270 million acres of federal land, nearly 25% of all the land in the U.S. Under this law, anyone can stake a mining claim on public land if a "valuable deposit" is discovered. The purchase price to buy, or "patent," a claim was set in 1872 and is still in effect — \$2.50 to \$5.00 an acre.

Since 1872, more than 3.5 million acres of public land, an area equal to the size of Connecticut, has been sold to private owners. In 1994, a mining corporation paid \$5,140 to patent 1000 acres in Nevada that contain over \$10 billion in recoverable gold. And in 1995 another mining company paid \$450 for land in Nevada containing over \$68 million in recoverable gold. The coal, gas, and oil industries pay 12.5% royalties for the commodities they extract every year, but minerals, including gold, are free! It is estimated that between \$2 and \$4 billion worth of minerals are given away each year and hundreds of patent applications worth tens of billions of dollars in minerals are pending. The 1872 laws generous terms extend to anyone and everyone, and today 16 of the top 25 producing gold mines in the US are owned by foreign multinationals. They also receive exploration subsidies and tax breaks. Mining companies get a depletion allowance based on the estimated decline in the mineral deposits value (due to their mining), and they don't even have to clean up when they are finished.

The 1872 mining law established mining as the highest and most preferred use of public lands, regardless of other competing uses or environmental sensitivity. The "right to mine" extended to mining companies remains in place as one of the major statutes in federal land use policy. It has no provisions for public comment, environmental protection, or reclamation. More than 60 of the hundreds of old, abandoned hardrock mines are so contaminated that they have been included on the Superfund National Priorities list. Yet the mining practices that produced them are legal and still in use today.

Certainly there should be standards in place to protect surface and groundwater from toxic waste, to safeguard wildlife and fragile ecosystems, and to ensure the restoration of mine sites is part of the process. Reform efforts are underway, but are slow, due to the mining industry's powerful political lobby.

Water

Perhaps the worst environmental consequences of mining have to do with water. During the California Gold Rush, a mining technique employed by the Romans was revived. For the "hydraulicking" process, water was diverted through a system of canals to high holding tanks, then directed in jets to wash away entire hillsides. Thousands of acres of forest were cut for timber for the dams and flumes, and by

1855 the foothills were laced with 4,500 miles of canals. An estimated 13 billion tons of debris was sent downstream to San Francisco, silting the bay, turning hundreds of thousands of acres of farmland into "sludgy desolation," and taking out the city of Marysville on the way. **8** The process was finally outlawed for use in California in 1884, but Bay Area companies still, today, provide the equipment for use in developing countries. **9**

Today, water consumption during mining operations is a key issue. Mines in Nevada are responsible for 75% of the gold produced in the United States and 10% of the world's annual production. And they consume more water than all the people in the state. There are hundreds of mines in Nevada, three dozen in the Humboldt River Basin alone. One of the state's largest open pit mines — a mile wide, two miles long and a half-mile deep — is so large that it can be seen from space. Mines of this scale must be "de-watered" by pumping out as much as 100 million gallons of water (from one mine), every day. Some of the water is used in the mining process, in heap leach piles that are 350 feet high, but most is just dumped into the river. The water table has been lowered more than 1000 feet in some areas. No one really knows what will happen when the pumps eventually stop, but it is likely that the open mines will pull water from the aquifer and form contaminated pit lakes. Springs, streams, and the Humboldt River may go dry, and the aquifer may never recover. To value gold more than water is to value money more than life. And the life that is being drained out of Nevada is coming from land that was the life of the Western Shoshone Indians. Skirting the 1862 Treaty of Ruby Valley, the United States has claimed ownership of the Indian territories and sold them to private companies that are now producing about 260 tons of gold each year.

Acid Mine Drainage

Unfortunately, these predictable and devastating consequences of mining aren't the worst of it. Mining for gold involves blasting, digging, crushing, and exposing rocks to access small amounts of gold. One scientist has estimated that gold mining in the United States generates about a billion tons each of waste rock and tailings annually. **10**

The waste rock often contains sulfides. One of the most common examples is pyrite. When sulfide-bearing rock is exposed to the oxygen in the air and to water, a dilute sulfuric acid is formed. The problem known worldwide as AMD (Acid Mine Drainage) occurs when heavy metals such as arsenic, cadmium, copper, lead, mercury, selenium, and zinc are dissolved from the rocks and washed into surface and/or ground water. Specialized microbes adapted to acidic conditions continue oxidizing the minerals and assist in the process. The Environmental Mining Council of British Columbia calls AMD "the mining industry's greatest environmental problem and its greatest liability... an acid-generating mine has the potential for long-term, devastating impacts on rivers, streams and aquatic life, becoming in effect a perpetual pollution machine." **11**

Seeping from underground mines, washing down the exposed walls of open pit mines, soaking through piles of displaced surface rock ("overburden") and stockpiled ore, and leaking from tailings ponds, AMD is an enormous problem because of its potential cumulative damage to the environment. "Once it starts, AMD can effectively sterilize an entire water system for generations to come — turning it into a biological wasteland and a huge economic burden." **12**

AMD costs millions annually to mitigate and is impossible to reverse with existing technology. Drainage from the recently abandoned and bankrupted Zortman-Landusky mine in Montana contaminates

nearly every stream in the area and is so severe that water treatment will be required in perpetuity. Officials have estimated that cleanup will cost \$33.5 million in addition to the \$30 million bond posted by the (now bankrupt) mining company, but the actual cost could be even higher. **13**

According to the Mineral Policy Center, there are 557,000 abandoned mines in the United States, mostly in the west. And according to EPA studies, at least 40% of western watersheds are contaminated by mine waste and continue to carry serious threats to the health and safety of communities downstream. Total clean-up estimates range from \$32 billion to \$72 billion. **14**

Riverine and Submarine Tailings Disposal

Although the practice of "riverine tailings disposal" was discontinued in the United States a hundred years ago and is essentially illegal in both the U.S. and Canada, several North American mining companies continue to dump tailings into the rivers of third world countries. A similar practice of disposing toxic tailings by piping them to the ocean floor, called "submarine tailings disposal," (STD) violates international agreements that protect the marine environment and is not permitted in the US and Canada. The impacts of STD and riverine tailings disposal are frequently much more devastating and widespread than predicted by the companies and their effects are immediate, long-term, and impossible to counteract.

Indigenous Peoples

Practices like riverine and submarine tailings disposal are outlawed in most developed countries. It demonstrates a particularly abhorrent environmental double-standard for mining companies to do in the developing world, where strong environmental safeguards may not yet exist, what they are not permitted to do at home.

Since 1994, the new gold rush prompted more than 70 developing countries to change their laws in order to attract foreign gold mining companies. During the following five years, exploration investments doubled in Africa, quadrupled in the Pacific and expanded six times in Latin America. The rush for gold has propelled extensive mining in Indonesia, Papua New Guinea, the Philippines, Brazil, Colombia, Chile, Peru, Mali, Ghana, Tanzania, Zimbabwe, and Uzbekistan.

Unfortunately, the shameful manipulation of indigenous people for gold has a long and brutal history. From earliest times, the lust for gold motivated wars over land as well as the enslavement of peoples to extract it from the earth. During the California Gold Rush the Native American population was reduced from 150,000 in 1846 to about 17,000 in 1900 due to enslavement, murder and death brought by malnutrition and disease. Recent books documenting this genocide through newspaper articles, correspondence and eyewitness accounts leave no doubt that mourning 1849 would be more appropriate than celebrating its anniversaries. **15**

Dozens of native populations around the world have already been devastated, and it is predicted that half of all gold produced in the next 20 years will come from indigenous lands. It is difficult to imagine a greater clash of civilizations than what occurs when a multinational mining corporation decides to extract gold from an area that is home to an indigenous population, bringing changes that disrupt those peoples livelihood, cultural traditions, and spiritual connections to their land.

The imposition of massive industrial projects on traditional populations — often without their

consent and against their will — leads to disastrous consequences. Representatives of communities and groups affected by mining from Asia-Pacific, Africa, India, and South and North America met in London in 2001 to compare the impacts of mining on the lives of communities and ecosystems and to share strategies on how to confront the industry. The London Declaration demands a full recognition of community rights and refutes the unsustainable claims of the mining industry and the current models of "engagement" that are neither adequate or fair. Their ongoing efforts seek to promote the "requirements and rights of the millions of people engaged in frontline struggle with the world's fifth most important industry." **16**

The World of Gold

Canada is the leading source for capital for mineral exploration, having raised \$6 billion in 1996 alone and serving host to one of the worlds top three gold producing companies, Barrick Gold.**17** In 1996, Canadian companies owned interests in 3,400 mineral properties in 100 countries. Like the U.S., Canada is kind to mining. In Canada, investors in foreign mining projects can deduct up to 100% of expenses from taxable income.**18**

London and Zurich are the capitals of the gold world. Zurich is an important center of activity because of the country's liberal banking laws, and the fact that there is no tax on gold sales. In addition, Zurich has four large gold refineries that process 60% of the worlds annual production. London has set global prices since 1848, when the London Bullion Market Association (LBMA) was formed, and is also the center of the gold deposit market, providing the international standards for pricing gold loans, swaps, and forward positions.**19**

It is estimated that the total amount of gold ever mined is 145,000 tons and that 85% is still around. Of those 123,000 tons, approximately 88,000 tons are in private hands as coin, bullion, and jewelry, and 32,000 tons are held officially by central banks. Of that amount, 22,000 tons (68%) are owned by five countries (the U.S., Germany, France, Italy, and Switzerland,) and the International Monetary Fund (IMF). The United States holds the greatest share, 8,135.4 tons, and it makes up 57% of our national reserves.

Why is all this gold being stored in vaults? It is almost 25% of all the gold ever mined, and nearly 13 times annual world production. It is enough to satisfy the world demand for years. Golds official role in world exchange came to an end in 1971, when the U.S. stopped offering to convert its dollars to gold at the rate of \$1 to .035 oz., (\$35 per ounce). Since then, the international monetary system has been based on paper currencies.

To be sure, gold does remain a global currency, thanks to its ability to slide secretly over borders. A senior U.S. law enforcement official claimed that gold played a uniquely important role in Al Qaedas financial structure because it is exempt from international reporting requirements for financial transactions and is a favored commodity in laundering money from drug trafficking, organized crime, and terrorist activities. He stated, "you can melt it, smelt it or deposit it on an account with no questions asked." Officials said the Taliban and Al Qaeda moved large amounts of gold into Afghanistan during the 1990s and estimated that 10 million was hand-carried out in a three week period as the government fell.**20**

The *Economist* has called gold the "spent fuel of an obsolete monetary system,"**21** and the investment firm Lehman Brothers has referred to its transition from money to commodity as reverse alchemy, turning gold into base metal. Recently, a number of central banks have been selling off their holdings. During the 1980s, they sold an average of 9 tons per year, and by the 1990s, the average was 219

tons per year. Belgium reduced their stocks by 75% over the last 15 years, and Canada pared theirs from 533 tons to 6 tons during the same period. Australia, one of the world's major gold mining countries, sold two-thirds of its reserves (167 tons) in July 1997. When Great Britain followed by announcing their intention of selling 415 tons and Switzerland voted to release 1300 tons, all hell broke loose.

In 1999, the price of gold fell to \$266 per ounce, its lowest level in 20 years, and a 66% fall from its 1980 high. Mining companies and mineworkers unions successfully forestalled the U.S.-backed plan to reduce the IMF's reserve and played a role in bringing about the 1999 "*Washington Agreement*," in which 14 European countries and the European Central Bank (ECB) agreed to limit their selling to a total of 400 tons per year over a period of five years. By the end of the year, the price of gold climbed to almost exactly where it had been before. It is unclear what will happen in 2004, when the agreement expires.

Gold is no longer money, but as a commodity it continues to be a powerful element in the global economy. Clearly, the massive gold reserves being kept from the market promote the extraction of new gold, bringing about cumulative, and in some cases irreversible, social and environmental damage. As holders of 23% of the world's gold, the largest share of any nation, the United States has an opportunity and an obligation to demonstrate leadership.

Although the U.S. Federal Reserve Bank published a "discussion" paper in 1997 that recommended that the U.S. government would benefit substantially from selling its gold, that earlier sellers would benefit more, and that it is economically inefficient to continue to mine gold when above-ground sources were available, the US has not sold or considered selling any of its reserves. **22** John E. Young makes a case for debate in his well reasoned book, *Gold: At What Price?* in which he says, "A full accounting of the global costs — human, environmental, and financial— of today's gold economy makes it clear that it is time to reassess issues ranging from the level of gold reserves, to mining industry subsidies, to environmental policies. The release of stored gold to the market could save billions in opportunity costs for the governments who hold the metal, and could sharply reduce the additional environmental and human impacts from gold mining."**23**

World Gold Production

In 1970, world gold production was 1480 tons. South Africa produced more than two thirds of that amount, 1002 tons. Russia was the next highest, with only 203, followed by Canada (76), the United States (55) and Australia (19). In that year, five countries produced just over 91% of the gold, while all other countries produced less than 9%.

By 2000, world gold production climbed to 2,573 tons.**24** South Africa still produced the most gold, 427 tons, but that amount reveals a drop of 43%, and indicates production less than 17% of the world total. The United States followed with 353, Australia (296), with China and Canada tied (149). Roughly, five countries now accounted for slightly more than half the world production.

For South Africa, gold is a blessing and a curse. Gold mining has been central to South Africa's social and economic history, and is key to understanding its strength in comparison to other African countries. The country's gold resources are thought to be around 40,000 tons, about 40% of world resources. Nearly all gold mined in South Africa comes from underground mines, with miners laboring in shafts two miles below the surface of the earth. It is one of the most dangerous places to work at one of the most hazardous occupations in the world. There are frequent cave-ins, and temperatures can reach 130

degrees. Between 1984 and 1998, there were 4,909 deaths — an average of one fatality for every ton of gold. In addition, there have been hundreds of thousands of injuries, a half-million former miners crippled by silicosis, and 4,000 cases of tuberculosis **are** diagnosed every year.

The gold in South Africa is the costliest in the world to extract, averaging \$222 per ounce, when costs in the U.S. are \$189 and in Canada, \$169.**25** South Africa is more vulnerable than any other country to declines in price. At least half its workforce was cut between 1990 and 2000. Joblessness and poverty, particularly in rural areas, are already serious problems in South Africa. Mining companies, and the global interests that have profited from the labor of these workers, need to be held accountable for their retraining and continuing health care needs.

Jewelry

Not only is gold not money, it is not a necessary commodity. It doesn't produce heat, or power, or transport. It doesn't provide clothing, or shelter, or supply us with food. Although approximately 12% of the gold demand every year is used in industrial applications — dentistry, medicine, and electronics — that number is less than the 15% of total demand met by recycling. Every year, at least 85% of the gold produced is made into jewelry.

Gold Institute figures show that jewelry fabrication demand increased by 133% worldwide between 1991 and 2000. By region, North America went up 150%, Latin America 180%, the Middle East 185% and the Indian Sub-continent 344% Economist Peter Bernstein reasons that "Gold consumption doubled in the course of the 1990s, and for good reason. The price of gold was falling while the price of everything else was rising. As a result, gold was perceived as relatively inexpensive."**26**

India is the world's largest market for gold. Gold is deeply woven into social, cultural, and religious traditions and remains an important channel for savings and investment. Nowhere else does gold circulate so easily between personal adornment and personal asset. Indians buy nearly 20% of the world's gold every year and 95% is used in jewelry. Gold jewelry is given for many occasions, and is the most common gift at weddings. Traditionally, gold jewelry is the only asset a woman may own, and as part of her dowry is the only way of passing wealth along maternal lines. A bride may wear as much as 32 ounces of gold for her wedding.

In India, high karat jewelry (18 and 22 karat) is preferred for both its beauty and its greater purity. It is in constant circulation, with roughly 30% of gold jewelry fabricated from recycled material. Government attempts to control gold have all failed. According to the noted jewelry authority Oppi Untracht, "Gold is a mysterious fever that infects the Indian psyche, and no cure is in sight."**27**

Gold Consumption

In 2002, the world demand for gold was 3,414.5 tons. Of that, 80% was used for jewelry, generating a global retail market for gold jewelry worth around 60 billion dollars.**28** India consumed 17%, and the U.S. was next with 11% (388 tons).**29** Gold jewelry sales in the United States in 2002 were a record \$15.9 billion.**30** India has long-standing, deeply held religious, cultural, and social traditions that drive gold. But what is it that is driving Americans to consume gold, or jewelry, in such quantity?

The 2002 World Gold Council (WGC) National Retail Report for Jewelry Sales is revealing. Gold remains a luxury item, but it has become increasingly affordable. Mass merchants are the price and volume leaders in the industry, "benefiting from impulse buying based on their positioning in malls, and pass-by traffic." **31** QVC, the television channel, is the fourth largest retailer of jewelry with annual sales of about one billion dollars, **32** and claims to be one of the largest purveyors of gold in the world. The top two "\$100 Million Supersellers" honored by National Jeweler in 2003 are Wal-Mart, with \$2.3 billion in sales, and Zales, with \$2,068,000,000. Others on the list of 33 are Sterling, J.C. Penney, Sears Roebuck, Tiffany, Kmart, and Costco.**33** The average price for all gold jewelry for the year was down 1.6% to \$77. The average price in jewelry stores was \$125 and \$132 in department stores. For mass merchants, the average was \$35.

The large volume of gold being produced and sold at low prices has, however profitable, undermined its standing as the ultimate symbol of wealth and status. At more than twice the price of gold, platinum is making a grab for this position. Marketed as being more pure, rare, and eternal (durable) than gold, platinum jewelry sales increased by 600% during the 1990s. As a result, gold has had to create a new identity. The World Gold Council,**34** whose mission it is to stimulate and maximize demand, is promoting gold as an accessible luxury with the power to transform one's life. CEO James Burton goes so far as to claim, "Gold jewelry is an important part of a woman's psyche; it makes her feel great as well as look good...unlike any other product or brand." **35**

With slogans such as, "Treat yourself to an elegant piece of gold jewelry," and "You are not fully dressed without gold jewelry," the WGC's \$4 million advertising campaign, "Speak Gold," features images of women wearing gold in casual settings such as in a cab, while getting dressed, or with loved ones. The idea is that a woman should purchase and wear gold jewelry because it has the power to transform their everyday life into one of joy, love, and friendship. The belief that gold has this power is, of course, cultural myth. **36** While gold is indeed something beautiful that we can enjoy, even love, it is not part of a woman's "psyche," nor is it necessary in order for a woman to feel great and have a healthy sense of well-being.

The vast discrepancy between the happy, carefree, gold-wearing women pictured in the ads and the realities of gold in today's world must be addressed. Gold bears an invisible tarnish of misery and devastation. It is a stain that cannot be polished away. While the market price for gold may decline, the human and environmental costs keep rising: dead rivers, polluted watersheds, exploited native communities, abused miners, hoarding, and profiteering are dragging us into the ditch. All for the love of gold, the most beautiful and valued of the Earth's many gifts. **37**

Endnotes

1 Peter L. Bernstein, *The Power of Gold: the History of an Obsession* (New York: John Wiley and Sons, Inc., 2000), 1.

2 Ibid., p. 367.

3 US Fish and Wildlife Service Bulletin, *Service, Industry Partnerships Protect Migratory Birds From Cyanide Mine Wastes*, February 15, 2000.

4 Mines and Communities website, Czech Republic & Rio Tinto, Parting Company, Autumn 2000.

- 5 Project Underground, *Ten Problems with Gold Mining*, ((Berkeley, CA: Project Underground, DATE?).
- 6 Press Release, Mercury Policy Project,
- 7 Scott Fields, Tarnishing the Earth: Gold Minings Dirty Secret, *Environmental Health Perspectives*, Volume 109, No. 10, October 2001
- 8 Rebecca Solnit, The New Gold Rush, *Sierra*, July/August 2000.
- 9 Pratap, Chatterjee, *Gold, Greed and Genocide*, (Berkeley, CA: Project Underground, 1977).
- 10 Fields, Tarnishing the Earth
- 11 Environmental Mining Council of British Columbia, *Acid Mine Drainage: Mining and Water Pollution Issues in British Columbia, 1997-2001*.
- 12 Ibid.
- 13 Clare Stark, *Zortman-Landusky Gold Mine, Montana, USA* (Washington, D.C.: Mineral Policy Center, DATE?).
- 14 *Cleaning Up Abandoned Hardrock Mines*, Mineral Policy Center, Washington, D. C. 2003
- 15 Trafzer, Clifford E. and Hyer, Joel R, editors, *Exterminate Them! Written Accounts of the Murder, Rape and Enslavement of Native Americans during the California Gold Rush*, Michigan State University Press, East Lansing, 1999 and *Gold, Greed, and Genocide*
- 16 Mining Communities Charter, Issues to the Fore.
- 17 The Top 10 Producing Mining Companies are (1) Newmont Mining (U.S.), (2) AngloGold (South Africa), (3) Barrick Gold (Canada), (4) Gold Fields (South Africa), (5) Placer Dome (Canada), (6) Rio Tinto (England), (7) Harmony Gold Mining (South Africa), (8) Freeport Copper and Gold (U.S.), (9) Kinross Gold (Canada), and (10) Ashanti Goldfields (Ghana).
- 18 Project Underground, *Ten Problems with Gold Mining*, (Berkeley, CA: Project Underground).
- 19 Project Underground, *Action Packed: The GOLD Album*, (Berkeley, CA: Project Underground).
- 20 Douglas Farah, Al Qaedas Gold: Following the Trail to Dubai, *Washington Post*, February 18, 2002.
- 21 Central- Bank Gold: Melting Away, *Economist*, April 4, 1992.
- 22 John E. Young, *Gold: At What Price? A Need for a Public Debate on the Fate of National Gold Reserves*, prepared for Mineral Policy Center, Project Underground and Western Organization of Resource Councils, 2000.
- 23 Ibid.
- 24 *SOURCE: Mineral Commodity Summaries*, U.S. Geological Survey, January 2002. (Statistics vary by source because of different accounting methods and units of measurement. At this writing, these are the most current figures available.)
- 25 M-Bendi Profile: South Africa, Mining, Gold Mining Overview, December 13, 2002 (figures are for 1999).

26 Bernstein, *The Power of Gold*, 365.

27 Untracht, Oppi, *Traditional Jewelry of India* (New York: Harry N. Abrams, Inc., 1977) 280.

28 World Gold Council figures.

29 World Gold Council, *Gold Demand Trends*, No. 42.

30 World Gold Council, *The National Retail Report: Gold Jewelry Sales 2002*.

31 Whitney Sielaff and Randi Molofsky, Gold Jewelry Sales Gain for 12th Year, National Jeweler Gold Online Profit Guide sponsored by the WGC.

32 Green, Barbara, *Comcast to Sell QVC, \$1 Billion Jewelry Seller*, NationalJeweler.com

33 National Jeweler, June 1, 2002

34 The World Gold Council is a “non-profit” that is funded by two dozen multi-national mining company members who pay a fee of \$1.78 per ounce to belong.

35 from speech, “Global Industry Overview - Supply/Demand Trends and Industry Opportunities,” given April 2003 in Perth, Australia

36 For a critical analysis of the mythologies involved in jewelry advertising, see my "Jewelry: It's Not a Pretty Picture," *Metalsmith*, Summer 1991.

37 In an effort to educate consumers about the environmental costs of gold mining, Earthworks/Mineral Policy Center and Oxfam America launched the consumer campaign, "No Dirty Gold" in February 2004. Information about the campaign, along with a fact sheet on gold mining and the new in-depth report, "Dirty Metals: Mining, communities and the Environment," are available at www.nodirtygold.org

References:

Bernstein, Peter L. *The Power of Gold: The History of an Obsession*. New York: John Wiley and Sons, Inc., 2000.

Chatterjee, Pratap. *Gold, Greed and Genocide*. Berkeley: Project Underground, 1977, online at www.moles.org

Flueler, Nicklaus and Speich, Sebastian, ed. *Gold*. New York: Alpine Fine Arts Collection, Ltd., 1981.

Mines and Communities website: www.minesandcommunities.org.

The Mineral Policy Center, Washington, D.C. website: www.mineralpolicy.org.

Mineral Policy Institute website: www.mpi.org.au.

Project Underground. *Fools Gold: Ten Problems with Gold Mining*. Berkeley: Project Underground, 2000, online at www.moles.org.

Project Underground. *Action Packed: The Gold Album*. Berkeley: Project Underground, 2002, online at www.moles.org.

Solnit, Rebecca. *Savage Dreams, A Journey into the Landscape Wars of the American West*. Berkeley and Los Angeles: University of California Press, 1999.

Trafzer, Clifford E. and Joel R. Hyer. *Exterminate Them! Written Accounts of the Murder, Rape, and Enslavement of Native Americans during the California Gold Rush*. East Lansing: Michigan State University Press, 1999.

Young, John E. *Gold: At what Price? The Need for a Public Debate on the Fate of National Gold Reserves*. Berkeley: Project Underground, 2000, online at www.moles.org.