

Responsible Mining
And
Sustainable Development

by

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INTRODUCTION

Here is a collection of writings on the topics of Responsible Mining and Sustainable Development and the ethical and moral duties of miners. This is the result of an e-dialogue between myself and somebody I admire but who prefers to remain unnamed.

SUNDAY RUMINATIONS

On a summer Sunday, I stopped my bicycle at the apex of the Lions Gate Bridge and paused to take in the view and wave at the cruise ships as they cleared the bridge en route to Alaska. This must be the most beautiful and breathtaking (B&B) sight in the world. I know of no better. But my analytical instincts kicked in and I wondered why I thought it B&B.

After all this is not nature. This is landscape thoroughly and utterly tamed and transformed by human activity. Sure in the far distance is a snow-capped volcanic peak (Mt. Baker). Sure there are towering mountains to the north and the ocean to the west. But the inlet is lined with ship yards, yellow sulfur, black coal, corn silos, high-rise buildings, rail yards, houses that splurge up the hills, bridges, boats, and parks. This is as urban a setting as any. Yet the eye and soul delight. Maybe it is the combination of natural beauty and the works of man that fascinate and thrill. Maybe it is the sheer taming and subjugation of nature that pleases. But I think not. I suspect it is the plethora and cornucopia of detail that excites. The mind is stimulated

to fever pitch and the senses reel at the things, both natural and manmade that take up the frame.

"Is this sustainable development?" is a question that flits through my mind. Is it any wonder this question burned into my brain and recurred as I gazed on the B&B before me? Here was a scene that epitomizes mankind's enjoyment of the products of mining and industry and human endeavor. Here was a scene that epitomizes the apex of the western world's wealth and presumably production of waste.

Damn! I recalled having forgotten to put out for recycling the five weeks' of free newspapers delivered to my door, and which I discard unread, put off by their trivial journalism and repetitive advertising. Was there ever a mine that generated as much waste as the free newspapers that keep coming in Vancouver?

THE HILLMAN BUILDING

I recalled a completely different but "similar" scene from university days. The postgraduate room of the Hillman Building, the home of the Civil Engineering Department at the University of the Witwatersrand, perches on the edge of the ridge that gives the Witwatersrand its name. Through the windows of this room where I wrote my Masters thesis, I had gazed and dreamed through many a lazy afternoon at the city spread in the valley below, stretching to the reef where gold was first discovered in the nineteenth century. I recall how, forty years

ago, I thrilled then to the buildings, the highway, the headgears, and the slimes dams that gave that far distant scene its B&B.

Tourist will never go to that room to get that vantage point, for this scene is not famous or the subject of postcards. But it shares that cornucopia of detail and the taming of topography by human works with that scene I enjoyed last Sunday.

Johannesburg is as much a city of mining as any—certainly more so than Vancouver. But both owe a great deal of their economy to mining. A simplistic answer butted my brain: if these two cities are examples of sustainable mining, so be it, let us promote more such around the world for all to enjoy.

GOLD FIELDS IN SOUTH AFRICA

From a friend who is now in Perth, Australia and with whom I shared many a technical discussion in the classrooms of the Hillman Building through torpid afternoons as we struggled with an equation and gazed idly at the scene spread before us, comes this report of what can only be described as sustainable mining, par excellence.

“7 September 2006. Gold Fields Limited is pleased to announce that it will invest R4.7 billion in the deepening of the Driefontein and Kloof Gold Mines in South Africa. These projects will access an additional 10.8 million ounces of gold below the current infrastructure of the two mines.

At Driefontein the company will deepen the existing 9 sub-vertical shaft system from its current depth of 1,988 meters below datum to a final depth of 4,121 meters below datum, making it the deepest mine in the world. To compensate for the challenges presented by mining at depth, the proven method of narrow reef mining with closely spaced dip pillars of 40 meter width and mining spans of 140 meters, with backfill for in-stope support, will be employed.....To achieve productive working conditions in an environment with virgin rock temperatures exceeding 55 degrees centigrade, the mine will use state of the art cooling technology, including bulk air cooling, chilled service water and ice technology.

At the Kloof Gold Mine [the extension] will be 4,020 meters below datum, making it the second deepest mine in the world. A conventional narrow reef mining method with closely spaced dip pillars of 35 meters wide and mining spans of 110 meters will be used. To minimize traveling time to and from working places, the transportation of personnel will be by means of a chairlift system, separated from the transport of rock and materials in the decline."

And I recall my father and his friends in the mid-1960s worrying about the demise of the South Africa gold mining industry. Clearly research, technology, human ingenuity, and rising metal prices, will long sustain the mines and the cities along the Witwatersrand outcrop. I am sure there are lessons here for an expert in the history of mining and the

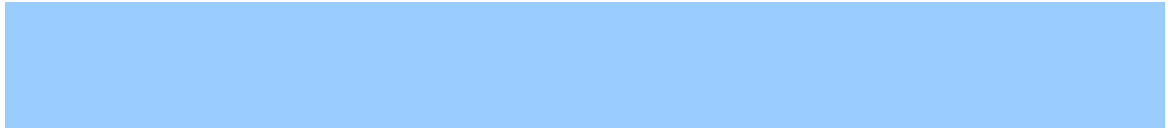
sociology of urban development. Maybe all we need is a good book on the history and successful development of cities and towns and communities subsequent to and concomitant with mining to persuade the skeptic and silence the doubters.

MORE ON CRUISE SHIPS

And so I waved to those aboard the cruise ships. They are bound for the old mining towns along the Alaskan panhandle. They will descend en masse on [Juneau](#) and head for the [Red Dog Saloon](#) and snap up ugly [T-shirts](#) just like the one I have on. But how many will take a walk up and out of town to the [Last Chance Mining Museum](#) around the hill from the town? How many will head across the inlet to [Admiralty Island](#) and [Greens Creek](#)? How many will even wonder at the reason for the town being where it is. From mining town to cruise ship attractor. Now that is sustainable city development. It also helps that the wise citizens of Alaska keep the state's capital out of harm's way in that isolated town far from the real action.

BEAUTIFUL & BREATHTAKING

From my co-author: What you saw—Jack—what caught your breath and your eye—was the melding together of Nature with Man. Man is the only species that changes his/her environment to suit his/her needs and/or desires. The beauty of the Vancouver harbour is the setting of what Mankind has created—giant cruise ships, bulk materials extracted from mines and wells, port facilities to load these exports and unload the supplies needed to support these activities, buildings that house



the head offices, financial institutions, engineering and consulting firms, and other supporting infrastructural companies that make-up what we work at here in British Columbia.

You did not view these diametrically-opposite vistas as a clash of culture - Nature vs. Mankind. Rather you marveled at the way our harbour and communities nestle in so well with the surrounding beauty that is our mountains, forests, sea, and coastline.

NEITHER BEAUTIFUL NOR BREATHTAKING

Again from my co-author: Not everyone would see this beauty. I know some relatives who have stared for awhile at the yellow sulfur piles and then told me it was too bad they aren't hidden since they spoil the view. Certainly not my opinion!

But you know, Jack, there are other aspects of what you were looking at that is not quite so beautiful and indicates the need we have to examine some of the factors that we should embrace as part of the concept of Sustainable Development.

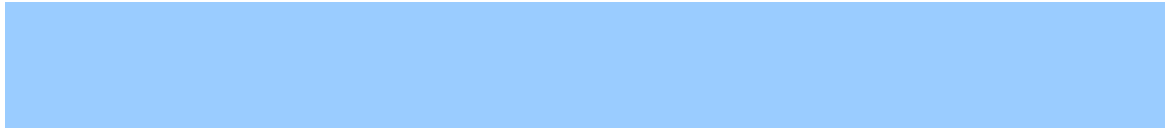
At either end of the Lions Gate Bridge are some of the communities that are not so affluent - to the north is the Squamish Nation Reserve and to the south after driving through Stanley Park and the downtown area to the east side of Vancouver, we find the drugged-up areas between Gas Town and China Town.

The Downtown Eastside contains about 4,000 to 5,000 homeless people who shuffle around the area sharing needles and looking for

"loot" to support their horrible heroin and cocaine habits. Most Vancouverites try to avoid walking through Drug Town, let alone driving. Any "straight" person, who has observed the chaos that exists in that part of town, quickly puts the images at the back of his/her mind and tries to focus on "good-thoughts". To attempt to deal with this terrible problem, the Vancouver City Council has opened up a support centre where these folks can "safely" inject themselves. While the centre does not supply the drugs they inject, it does provide clean needles and the staff oversees those who might otherwise overdose. The claim is made that this Safe-Injection-Site has saved several hundred of people from overdosing and perhaps, dying over the past three years. The users of the Centre are encouraged to enroll in drug-rehabilitation programs and apparently some have actually done so and successfully managed to kick this terrible addiction.

THE SQUAMISH NATION

Yet more from my co-author: Now let's turn to the north—to the Squamish Nation community who live under the bridge in North Vancouver. If you visit the area, it looks similar to any other suburban community with churches, schools, stores, single-family dwellings, apartments, an excellent community centre and all the rest. And certainly, the Squamish Nation represents one of the bands in B.C. that have fared better than those in other parts of the province. Although Canada may have done less damage to its Indigenous Peoples than did other countries around the world, our record of dealing with First Nations is considerably less than exemplary.



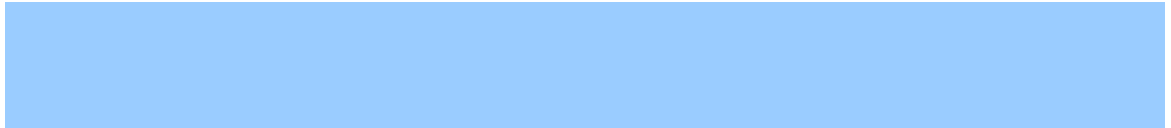
Beginning with the arrival of the white explorers to the west coast, we brought disease and alcohol to a people unprepared to deal with such problems. Tens of thousands of First Nations people died from these new diseases.

We have broken nearly every treaty ever signed between government representatives and First Nations bands. Over 150% of B.C. is up for ransom under numerous Land Claims by the First Nations bands. In more recent times, we set up religious missions wherein Indian children were separated from their families. Many were sexually abused by the very men who were supposedly preaching Christianity to them.

A visit to many of the reservations in the Interior of B.C. will reveal that many First Nations peoples live at poverty levels equal to or, in some cases, worse than some parts of the developing world. Poor health care services, corrupt officials and leaders, and poor schooling gives these folk little hope for the future. Alcoholism prevails throughout the reservations and the lack of quality maintenance leads to a rather chaotic environment.

ANOTHER PERSPECTIVE ON JOHANNESBURG

Jack, you also made a comparison between Vancouver and Johannesburg and I can't let that pass without my "two-cents-worth". I visited Jo'burg for the first time last year.



HIV/AIDS is now a major pandemic decimating an entire generation of Africans. In South Africa, one in four Africans has been infected with the HIV virus and it is anticipated that between now and 2012, over 10 million people in southern Africa will die of AIDS. What a tragedy!

And what of the beauty of your Johannesburg, Jack? I toured the downtown area and went to the Top of Africa Tower that provides vistas of the sprawling city in all directions. Tailings dams and waste dumps can be seen along the Reef - they stand out in stark contrast to the bushveld countryside in the distance. Some have been reclaimed but there is still much to do. At least it has commenced.

The downtown area (the so-called "Business Section") is no longer where the headquarters of the major South African companies are housed—they have all moved to the suburbs to the north. And why is this? Well, the entire downtown region has been taken over by drug traffickers (I was told they come from Nigeria). Homeless people abound on the downtown streets and the smells and sights of poverty are all around, reminiscent to me of the Downtown Eastside of Vancouver.

I also visited several of the higher-class suburbs and expected to see villas with beautiful Bougainvillea gardens. Instead, I could not see any of the houses as we drove along the streets. Instead all I could see were 12-foot high fences—most made of concrete with razor-wire along the top to provide protection for each family within the property. Many homes hired guards to provide security at night to prevent

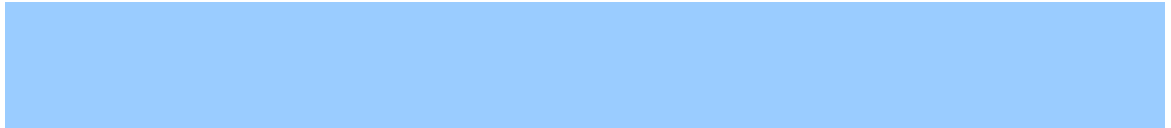
home-invasions (similar to Vancouver perhaps, but much more frequent).

I was told Johannesburg was one of the most dangerous cities in the world a mere five years ago, but I suspect that Baghdad and Kandahar have displaced Jo'burg from this dubious distinction.

Is this a sustainable way to live? Is this what the 20th Century South African miners intended to have happen to their beautiful city? I think not! And so, what is the answer for our two Mining Cities - Vancouver and Johannesburg?

The Africans may have won their democratic freedom a decade ago, but the inequities of the past still exist today and clearly prevent a rapid attack on the poverty and chaos that central Johannesburg has become. The mining companies chose (or were forced to choose) to move out—to abandon the Business Section to the drug lords. At some point they will have to return to reclaim their downtown in the same way that we will need to reclaim our Eastside of Vancouver and make it a safer place to walk and congregate.

Mining has a major role to play in this regard as companies here in Canada and South Africa continue operating globally in regions where the same types of issues and problems exist. The governments in these regions may not be competent or strong enough to provide their people with the basic needs to which all peoples are entitled – enough food to eat, a roof over their heads, access to equitable health care, quality education systems, and suitable employment. Mining



companies must recognize that they must play a more proactive role than in the past to provide these amenities to their employees, their families, as well as to the local populations who are affected by the mine.

OPERA INSPIRED THOUGHTS

Sir: I have reread your critique of my piece on views prompted from the Lion's Gate bridge and the Hillman Building at the University of the Witwatersrand. You take me to task for failing to see—or at least write about—the human misery that abounds when one descends from the lofty heights to the streets. You take me to task for failing to promote action by society, and more so action by that industry that nurtures us both, namely the mining industry. You take me to task for failing to establish a viable conceptual model, a theory, a philosophy, a system, if you will for addressing the very problems that arise from human action to develop (exploit?) nature—mining being the prime actor. These are valid criticisms. And I do not have immediate answers. So let me first record thoughts and ideas and parables that may express my ideas and set the scene for a ruthless examination of our critique.

While I type this I have three radios turned up loud to the live broadcast by CBC2 of the Walkure, the second of Wagner's Ring Cycle operas. I confess to being besotted by opera. I cannot miss this transmission of the first opera series from the new Toronto opera house.

The first live opera I saw was in Johannesburg at the Civic Center a short walk from the University. In those days, Blacks were not permitted in the whites' theaters or cinemas, but because opera was considered so silly and irrelevant to society by the apartheid regime, they permitted Blacks to this first performance of Verdi's *Macbeth*. Little did they know the story of regicide, usurpation of power, marital madness, blood, revolt, and rebellion. On chorus, sung by the Scots in defiance of the invading English is replete with the Italian phrase *Libera Me*. This must be the only time in the opera's performance that the audience has stood and shouted and sang with the chorus those words of demand and longing: *libera me*. Like one, the opera fans, Black, White, Indian, and Colored stood to express their emotions. Maybe I am wrong for so many of Verdi's operas deal with the desires and demands of an oppressed people for freedom—in his case it was for Italian freedom from the overlords, the Austrians. Who can not rejoice at the massacre of the French by the Sicilians in *I Vespri Siciliani*? And yet what horror it is.

I have just listened to the best single act in all opera: the first act in which Siglinda and Sigmund, twins, conceive Sigfried, surely the bravest and stupidest hero in all art. (Lucky for me I studied German and have brushed it up ever since by listening to much German opera—moreover I have watched at least three video versions of the Ring, so I can follow the passions and betrayals.) I cannot help reflecting that Wotan arranged this rather unusual love tryst to get the hero he needed to wrest back the gold he lost to the giants and to regain the ring which will enable him to rule the world.

How many societies have copied him: mining gold to ferret it away in the ground, guarded and hidden and useless except to a theory regarding money? Are Wotan and the gods of Valhalla merely symbols of societies that mine and grab and hoard to gain and keep power and enjoy the luxury of their new-built heaven? Is that why we love the story—of course the music helps.

Maybe we love the story because the foibles of the nature of the hero and heroine, Brunhilde, rob the gods of their kingdom and return the gold to the Rhine Maidens? A simile of our desire to restore equilibrium and foil the greedy and power hungry? Who can not love a goddess who defies her father and suffers loss of godhead for principles? This is an opera of the power of the individual to stand up to evil and improve the world. Does it tell us we all have it in us to do the same—or that we all should do the same—or that if we do not do the same, there is no personal or societal salvation? Abjure gold, abjure rings and swords, abjure lovely villas, and all will be well?

Hitler did not see it this way. He took the opera as a parable of the worth of a race and as justification for horror. Just goes to show, we interpret art (and economic worth) by our own visions and aspirations.

But that leaves us with the question still: what should society and its individuals do in the face of oppression? Let me return to reality: I have just checked the air in the tire to which I applied a patch. This is the second puncture in as many days. You see, in the summer I ride my bicycle to work. Down the hill, along the river path, over the Second Narrows Bridge, past million-dollar homes looking out over the

harbor, and then through the east end. Here I pass those that you write about: the homeless, the drugged, and the prostitutes. They are just waking, walking unsteadily, and shaking their heads and muttering. I see them again in the evening as they sit smoking or injecting, pulling the plastic of their dwellings around them in the falling light. They are more animated and some walk around shouting profanities at nothing in particular. Others sing in loud, unoperatic ways—yet they are the essence of the tragedy that attracts us in opera.

There is a movie I once saw, *Aria*, where an opera is performed in the madhouse. I chill to the memory of the transformation the music wrought in those troubled souls. (I am not recommending free opera performances in the east end! On second thoughts, should I? Probably cheaper than drug injection places?)

Can we reclaim this part of town? Should we? Are they happy there? Why should we displace them and place them in madhouses to watch opera? Damn it, I am not allowed to buy alcohol with dignity in this town—I am forced to crawl past the beggars into a government controlled outlet where I am treated with disdain by arrogant unionists who clearly look down on anybody buying liquor—certainly somebody like me: an old, gray-bearded man in the tatty shorts and sweaty T-shirt that I wear when riding.

If I am not allowed to purchase wine on a Sunday in a clean, happy grocery store as is my want in California, how can they have the right to drug up in freedom. To my mind, freedom is indivisible: a society

that restricts the sale of liquor and make a sinner of me when I buy an innocent pleasure, inevitably will rob its lesser citizens of even more fundamental dignities. We are too scared to take on the government monopoly on liquor sale and banish this ignoble institution to the ashes. What chance have we of dealing equitably with those I ride past to and from work.

I am denied freedom and dignity for what I am; so too are they. My denial-consequence is trivial; theirs is tragic. But I reiterate: freedom is indivisible. When we curtail human freedom for one ideology, we inevitably curtail it for others; sometimes with comic results, sometimes with terrible results.

Two thoughts to bedevil this conclusion:

- A friend in Los Angeles is a heavy smoker. He loves to go to the Indian casinos on the reservations outside San Diego. No liquor is allowed on the reservations and no liquor is allowed in the casinos. Yet everybody smokes and the air is heavy; he too is happy smoking and gambling for he cares not for fine wines and brandy.
- My favorite porn store in Iowa is in the middle of a farmer's field. It is not the store's contents that attract me. It is the large billboard in the adjacent field; and on the billboard is the simple message: *God Sees Your Every Action.*

Unlike you I have not been in South Africa for seventeen years. The last time I was there was to collect my son who on finishing high school spent a year in Cape Town before returning to the US and university. We posited him safely with my sister in an upper class suburb and provided him with cash to travel and see. But he chose to move in with a 24-year old English girl and work in a pub in the middle of Cape Town.

Unlike the other whites he was free of racial prejudice; a result of growing up in Albuquerque, New Mexico. He befriended the Blacks and Coloreds in the bar and drove them home in the car bought with our money. (Recall the Irvine, California girl killed while doing the same.) One day the bar was robbed. He and his co-workers were locked in the secure room where the liquor was before being stolen. Only later did a follow worker, a Black confide to him that the talk of the robbers had been to kill the bar workers, but they desisted when one pointed out that my son was an American and not a South African racist. I still shudder at the thought.

FROM A LONG TIME AGO: TRICENA

While collecting the thoughts recorded above, I chanced on this piece I wrote in 1978 about Professor Jennings, the man who made me a geotechnical engineer in the mining industry.

It was near midnight in a large old house in Parktown. Brandy was being drunk around the ball and claw-footed dining room table. The story he told went something like this:

Tricena has been with us for 24 years...getting a bit old now though. She is still a good cook, but she can hardly climb those stairs. There's the tragedy to it: you take a half-westernized woman, she's really a Christian and then she gets divorced. He was a nasty bastard, really; beat her up occasionally, but then in their culture a bit of that is accepted. As a Christian she would not stand for it.

Now she has got no male family. I'm the head to the clan now. Four daughters. She's hoping to get *lobola* for one of them; the youngest one is too young yet. The other two are spoilt, and have illegitimate kids. The one is by Simoen who works our garden. A nice lad, but he won't marry her. I'll sue him yet.

We have got to retire her now though. There's a 5,000 square foot plot (I am too old for these metric units) down near Newcastle. About fifteen miles from the town in the homeland. Whatever you say about the politics, at least she can own her own house there. Twenty-two rand and she gets the plot; all the services laid on. I am going to build her a basic house, four rooms, no ceiling, but with proper floors. It will cost a thousand rand at least. She's got some saving, about R400, plus the *lobola*. I'll pay the rest, but she must own it herself, so we'll clean out her savings. Of course, I'll give her a pension as long as I live; after that it is up to the kids; they must do their part.

I went down to Newcastle the other day to find a Black contractor. Finally found a Mr. Mtate, I think it was. A nice fellow—we got on well. He wanted to charge me R500. I asked him how he got that price for the labor, seeing as I am buying all the materials. We went through

each item and it was clear he had overestimate the brickwork. Came down to four-fifty eventually. Then this architect fellow, smart as can be, came up and said he would help, which he did.

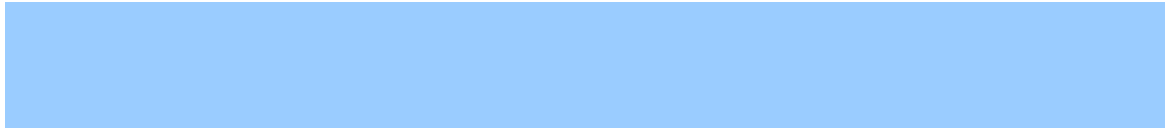
She signed the forms and it all appears to be going nicely now. I don't think there will be any trouble. That's the good thing about these schemes, you know: she will get something to pass on to her family. She will take her daughters back to Newcastle with her. I've got a little Soweto here in my backyard, and it could be a bit expensive if the police raided here.

The brandy bottle was empty as he concluded: we've done some fine things with all this Christianizing, but we've destroyed a fine family system. We can only do what we can to help. Those individual cases where you can do something, that's where you must do it.

INTERNATIONAL FINANCE COMPANY

I confess I respect the quality of the [EarthWorks](#) reports and the force of their arguments, even if I do not always agree with all their perspectives. There is no need to like great art to admire and respect it—think, for example, of all those Madonna and Child pictures in European churches that I never want to see again.

I referred to their report [Tarnished Gold: mining and the unmet promise of development](#). The report asks that the International Finance Company, now under the direction of [Paul Wolfowitz](#), whom some think brought us Iraq, should prove their claim that their



operations—lending money to large international companies to develop mines in dangerous parts of the world---promote sustainable development and improve people’s lives. All the report asks is a project by project report on the development impacts of projects to which the bank lends money.

Seems simple enough to me, although I confess to being baffled as to why large mining companies need to get money from the International Finance Company—I thought that’s what stock exchanges are for.

If “world” organizations provide money to private companies, surely they should hold each borrower to the highest possible ethical and moral development standards. We cannot expect that from the local bank, but, I believe we can and should expect that from an international organization. I cannot believe so large an organization is unable to track the impact of a loan of millions to an individual mining company.

I read much of what ICF put out in response to the EarthWorks volume. I noticed these examples of ICF investments: five percent of the Rio Tinto operations in Guinea; \$6 million to support exploration in Africa; \$15 million in mine in Nigeria; and payment for a new railway line somewhere in Africa to connect two countries run by dictators.

CO-AUTHOR REPLIES

Here are some of my co-author's replies to my bewilderment:

EarthWorks is right to ask for the International Finance Company to justify and quantify their investments. One of the main arguments is that to permit project development in the absence of an organized, coordinated format, results in devastation. Certainly there are examples of mines that impact the environment. Certainly, the landscape is disturbed by the creation of a hole in the ground that eventually floods and that requires long-term water-treatment.

But in the third world they are many examples of mines that contributes to the health and welfare of local communities through the provision of employment (often of higher quality than otherwise) and through the generation of wealth through royalties and taxes and direct contributions to hospitals and educational facilities. A mine today must provide benefits directly to its employees, their families and local support communities if it wants to be a long-term sustainable activity.

The NGOs want the International Finance Company to justify their lending on a "project by project" basis. This is extremely difficult to do in an accurate, quantifiable manner. Instead, one must look at how overall poverty in a country or region is improving. Look at the growth of health care and education facilities. If such facilities were tied directly to each project, then quantification is easy. However, this is rarely done and it does make it difficult to provide the links needed to

justify the approach being taken by the International Finance Company in managing its investments.

The NGOs like to focus on the negatives without providing a balance of positives. They are naive with respect to how capital markets work and how money is raised and used to flow through an economy to promote "boot-strapping" of its participants. True, if funding flows into a region without proper management and organization, it is squandered and goes into the pockets of corrupt officials. While some of this undoubtedly occurs in some of these regions, it is under a controlled process that results in the overall improvement of the lives of the population.

It is clear to me that the NGOs are totally off-base in attacking the International Finance Company . It is clearly a fight about methodologies and philosophies in which International Finance Company represents the private sector approach with a need to make "profit" and the NGOs who want to focus on Foreign Aid as the main method to attack poverty. They seek to give the funding away without control or a need to invest for the long term. You can give a fish to a poor man and he will live another day. But teach him how to fish and he will live a lifetime and so will his family.

PLATO ON MINING?

Plato endorsed the telling of lies by rulers, if lies served to forge stronger bonds of identity and unity amongst members of a society. Plato contended that such lies are not only acceptable, but can also be

considered “noble”. I believe that “noble lies” inevitably end in the oppression of some groups at the expense of others. Such lies have justified slavery, legitimated acts of aggressions, and human subjugation.

In South Africa when I was growing up, the press was strictly controlled and we were allowed to hear only what the government deemed fit for us to hear, including, as came out later, many “noble lies”. Surely you are not asking that the mining industry or any professional therein to indulge in “noble lies”?

My father was convinced [in the mid 1950s] that communism was good for Russia as it took, in his opinion, a strong man to control those unruly Russians. Saddam Hussein believed the same, and maybe he was correct. American decency is getting nowhere amongst traditional enemies. Surely you are not proposing we free good old Saddam and allow him to resume control to use “a degree of evil” to bring peace to Iraq?

I propose the ICF should stay out of financing mining companies—let them go to the stock market for their money. I propose the ICF lend money to establish sustainable developments that can take over when the mines move out or are exhausted. Surely you are not proposing that the ICF by investing in Canadian mining companies is helping reduce corruption in third world countries?

I cannot accept that greasing the wheels a little to get a mine into operation is justified. Obviously humans grease each other’s wheels.

But we should strive for a system where this is not necessary. I would propose taking the money invested by the ICF in mining companies and instead spending it training civil rights lawyers and corporate attorneys who are required to work for NGOs. Now that would bring freedom and dignity to help “down trodden citizens.”

THE SOLUTION?

Incautiously I once wrote at the end of a long [piece](#) the following (an I say sorry if you have read it before, but it is worth repeating at the end of this long discussion):

I have said nothing in this piece about sustainable development. That is because the whole topic leaves my cold. There is so much contradictory nonsense out there under the heading sustainable mining, with a continuous stream of new text attempting to defend every possible position. The writings on the topic are like another great book, you can find support for any position you choose.

You will get more honest, factual, and scientific information relevant to mining ethics if you read these publications that have nothing to do with mining ethics, but which have lot to say that is, in my mind, relevant:

- [The DecisionTools Suite](#) from Palisade
- [Darwin's Dangerous Idea](#) by Daniel C. Dennett.

- [The Origin of Wealth: Evolution, Complexity, and the Radical Remaking of Economics](#). by Eric Beinhocker.
- [The Selfish Gene](#) by Richard Dawkins
- [Breaking the Spell](#) once again by Dennett
- Also watch the opera [Simon Boccanegra](#).