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You've got all the facts.

Bob Lilienfeld
The Cygnus Group
October 2, 2007



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Now for the hard part...

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...Convincing People to Use Them.

Scientific literacy is not one of our nation's strong points:

- In a 2002 survey of American adults conducted by the National Science Foundation, less than 25% of those interviewed could define the word *molecule*, and only about 33% could describe what it means to study something “scientifically”.

Non-scientists are filling the void created by the lack of public scientific perspective:

- “The noise introduced by the activities of Madison Avenue and of Hollywood has degraded communication enough to seriously threaten our ability to undertake new adventures in science-based technology.”

– *Dr. Arthur Kantrowitz, National Academy of Sciences*

So is the media, which in general looks for high-interest stories with little regard for thorough analysis or fact-checking:

- “I’m pretty well plugged in to what’s going on in research. I hear on the news ‘Major breakthrough in cancer!’ And I think, Gee, I haven’t heard anything major recently. Then I listen to the broadcast and realize that I’ve never heard of this breakthrough. And then I never hear of it again.”

– *Dr. Richard Klausner, Former Director, National Cancer Institute*

The Result of this Illiteracy:

- I. Sound bites that contain no real meaning other than as “feel-good” advertising messages:
 - Green
 - Environmentally friendly
 - Earth-saving
 - Eco-safe
 - Good for the environment

The Result of this Illiteracy:

2. “Factoids” and political decisions that bear little relationship to what science truly reveals about:
 - Paper vs. Plastic
 - Use of renewable vs. non-renewable resources
 - Packaging vs. Products
 - Recycling vs. Source Reduction

Some good news...

- The current *phrase du jour* now reaching the general public (thanks in large part to positive efforts by companies like Wal-Mart), actually started in academic circles with a definition:
 - Sustainable Development:
Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.
-- The Brundtland Commission, 1987

However...

- Even this definition is less than optimal, because there really is no way for us to know what future generations will require to meet their own needs.
- It places the onus on “generations” and not on “people”, so it lacks personal relevancy.
- It’s already becoming undifferentiated, as the term has morphed from sustainable development to something a bit more glib -- *sustainability*.

This is where you come in.

- As scientists, you can help ensure that the term “sustainability” has both meaning and a long life by helping us make lifecycle research more relevant and meaningful to non-technical audiences.

Some thoughts...

- Consumers, politicians and the media need an easy way to gauge the present and measure progress in the future. Let's develop a dashboard that measures and displays:
 - Resource consumption (matter & energy)
 - GHG creation
 - Air and water emissions
 - Waste generation and disposal

Some thoughts...

- Consumers, politicians and the media also need to have the science legitimized by seeing it in action.

This is truly a major opportunity for companies like Wal-Mart, as it will help them educate their customers while finding new ways to reduce economic as well as environmental costs.

Some thoughts...

- Finally, consumers, politicians and the media need to see the positive changes that occur when taking a scientific approach.

This will be the hardest part, but probably the most important one. Good science is both verifiable and measurable.

Georges Clemenceau once said...

- *“La guerre! C’est une chose trop grave pour la confier à des militaires.”*
- “War is too important to be left to the generals.”

Bob Lilienfeld says...

- *“L’écologie! C’est une chose trop grave pour la confier à des politiciens.”*
- “The environment is too important to be left to the politicians.”

But, since it ultimately will be left to the politicians...

- Educating them about the value and availability of sound information is step one.
- Helping them understand and digest that information is step two.
- Motivating them to use that information to make decisions is step three.

Here are some simple things we can all do locally.

- Speak at our children's schools about what we do, and the value it has in shaping their future.
- Complain to companies and other organizations when their environmental claims are untrue, unspecific or unsubstantiated.
- Write letters to the Editor correcting faulty logic, misperceptions and bad science when we read, see or hear about them.

Here are some simple things we can all do locally.

- Attend local town council meetings and speak up on issues where we can provide insight. Offer to help council members get up-to-speed on the latest research.
- When asked for recommendations, provide ideas that require a few simple, easy-to-do steps rather than one big leap. Make sure that listeners understand the near-term value of your recommendations to them personally.
- Talk to the media about what we do and what we know. Reporters are eager to learn, and are always on the lookout for experts who they can consult and quote.

What's in it for you?

- Take pride in the fact that after helping improve scientific literacy and correcting misperceptions, you'll be contributing to the creation of a more sustainable economy and ecology.

You'll also be able to quote the New Testament to your audiences and flock of admirers:

*“... you will know the truth,
and it will set you free.”*

Questions?