

COMMUNICATING CHEMISTRY
Reaching Students and the Public at Large

Bassam Z. Shakhashiri

Transparencies

June 8, 2003

SCIENCE IS FUN

on the Web at

www.scifun.org

SCIENCE IS FUN

in the Lab of Shakhashiri

The master of chemical demonstrations, University of Wisconsin-Madison Chemistry Professor Bassam Z. Shakhashiri, shares the fun of science through home science activities, demonstration shows, videos, and books. Information about these and other science fun sites is available here.

A Word to the Wise

More Information

Wisconsin Initiative for Science Literacy

Science Saturdays

Christmas Lecture

Chemical of the Week

Experiments You Can Do at Home

Science in the Media

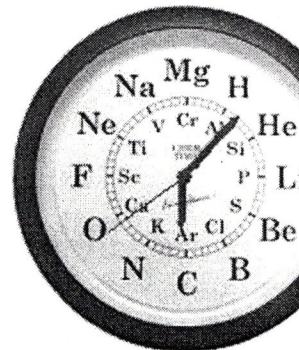
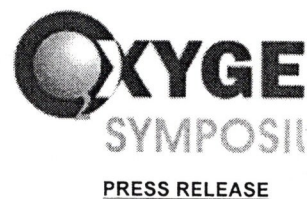
Presentations by Professor Shakhashiri

Science on Wisconsin Public Radio

Handbook of Chemical Demonstrations

More from Wisconsin

General Chemistry Course Information



ChemTime Clock



Send information requests to SciFun@chem.wisc.edu

Site last modified: 20 March 2003

IN SEMINARS AND IN ARENAS
THE DIFFERENCE BETWEEN
BEING BORED AND BEING GORED
IS THE QUALITY OF THE BULL

“Science is a hexagonal mountain with six faces... The three beautiful faces of science are science as subversion of authority, science as an art form, and science as an international club... Science is presented to our young people as a rigid and authoritarian discipline, tied to mercenary and utilitarian ends, and tainted by its association with weapons of mass murder... The way to attract young people into science is to show them all six faces and give them freedom to explore the beautiful and ugly as they please.”

**Freeman Dyson
From Eros to Gaia, 1997**

“A failure of science to produce benefits for the poor in recent decades is due to two factors working in combination: the pure scientists have become more detached from the mundane needs of humanity, and the applied scientists have become more attached to immediate profitability.”

**Freeman Dyson
Imagined Worlds, 1997**

CLARITY OF PURPOSE

THE PURPOSE OF EDUCATION:

**TO ENABLE INDIVIDUALS TO FULFILL THEIR
HUMAN POTENTIAL.**

THE PURPOSE OF RESEARCH:

TO ADVANCE KNOWLEDGE.

THE PURPOSE OF TECHNOLOGY:

TO ADVANCE THE HUMAN CONDITION.

Vignettes: Mentoring

I tried to teach Fermi to fish, and it seemed to me he liked it. However, he once returned [to Los Alamos] from Chicago with a lake fishing rod and reel. I told him that it was not suitable for mountain streams, but to no avail. Fermi developed a theory on how trout should bite and on how to catch them. The theory was disproved by experiment, but this did not impress him in the least. Ultimately he abandoned fishing, but not his theory.

Emilio Segrè

in *A Mind Always in Motion:*

The Autobiography of Emilio Segrè

(University of California Press)

**There is no higher or lower
knowledge, but one only,
flowing out of experimentation**

Leonardo

Data

Information

Knowledge

SCIENTIFIC LITERACY

SCIENCE LITERACY

“They don't understand the music but
they like the noise it makes”

Thomas Beecham

COMMUNICATING CHEMISTRY

Formal

classroom

journals

books

professional meetings

Informal

radio

TV

the Web

print media

schools

shopping malls

museums and science centers

political conventions

State government

Halls of Congress

NATIONAL CHEMISTRY WEEK

Rewards of Teaching

Chemical Epistemology

Chemical Skills

Chemical Models & Theories

Chemical Facts & Phenomena

Attitude & Motivation

Good Teachers are:

Competent in their disciplines

Committed to their disciplines and to the profession of teaching

Comfortable with the methods and techniques they use

Compassionate with students (and colleagues)

problem-solving skills

***GOOD* judgement**

Faculty owe it to themselves to teach what they love. In so doing, they nourish their students. They owe it to themselves to show their students who they are. To do this, they need to know what they love, and who they are — not a simple task, but surely the anchor without which they'll drift.

Diane Chapman Walsh, President of Wellesley College

Great professors are the ones who weave webs of life-affirming connection for their students. Proficiency with technology, tightly framed learning outcomes, even multicultural awareness are secondary to the passion professors bring to their subject matter, the compassion, awe, and joy they embody and communicate. Great teaching comes from spirit, not from technique.

Diane Chapman Walsh, President of Wellesley College