

You Talking to Me?

Science isn't what it used to be, and I miss it. Then again, as they say, it probably never was. Still, it seems that independent, self-sufficient investigators are going the way of the stouthearted yeoman, the homesteader, John Henry, and the village smithy. No more standing under the spreading chestnut tree with a hammer in your hand. Just because nostalgic images like these, and the idylls they evoke, never really existed is no reason not to miss them. Used to be able to maintain the illusion, at least. Emphasis was and, despite everything, remains on the lone scientist in her lab, the tinkerer in his shop, the scholar in her tower: autonomous, persistent, focused, contemplative, usually alone or with Igor.

Now, academic science has just about finished joining the market economy and the market culture. The world, with all its energy, venality, and temptations (i.e., money), has become interested in us. You can't just be a pretty good scientist anymore, walking around mumbling and looking at your shoes, even if you do have tenure. It's your leadership and enterprise (i.e., the money you can bring in) that's wanted. Shockingly, we learn that we too can be bought. I personally have not had the opportunity to deal with temptation much in this respect, but, like you, am sure I would handle it with probity as well as profit.

I blame it all on the successes of the genome project. (The -ologies are dead. Long live the -omics.) Bigger now seems better; so emphasis turns to growth, applications, and efficiency. You can tell by the words and the metaphors. Language that used to mark business is now used about science: product, output, best practices, forward looking, clear visions, harnessing discovery, flow in the pipeline. (You talking to me?) Trying to understand, I mull over the words: What kind of practices should we use? Best practices. In what direction should we look? Forward. What should we do with discoveries? Harness them. Somehow, I still don't understand what they're saying. It seems that

metaphor is no longer used to illustrate and enliven an idea; it *is* the idea. Orwell warned us that the degradation of language accompanies politics and power: lack of precision, worn-out metaphors, stale imagery, abstractions, pretentious diction, and meaningless words. "As soon as certain topics are raised, the concrete melts into the abstract and no one seems able to think of turns of speech that are not hackneyed," he said.

I hear: "What we need is mission-oriented, targeted, interdisciplinary, translational research." It's important to "facilitate teamwork, communication, cooperation, and integration," "to build bridges across disciplinary boundaries," "to foster proactive, cross-cutting cross-fertilization," "to get people talking to each other." With "leadership" and "realignment," we'll go in "new directions and reach higher levels." Now that there are "overarching goals, mission statements, strategic plans, roadmaps, and futures initiatives," we'll all get there by and by. Now, at last, with prioritization of goal-directed research, we can fill the gaps in the portfolio, shepherd breakthroughs from bench to bedside, deploy rational drug design to open new fronts to win the war on cancer, and make the decade of the brain timeless. All we have to do is join up, line up, shut up, and march to glory.

The new emphasis is on big ideas, big programs, big groups, with many scientists laboring toward a common goal. Industrialization has arrived to sweep away the independent scientist. Developments in physics led the way. I can't say "the degradation of the position of the scientist as independent worker and thinker to that of a morally irresponsible stooge in a science-factory has proceeded even more rapidly and devastatingly than I had expected." But Norbert Wiener could, in 1948.

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