

Comment

Feet in mouth disease

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The fascinating thing about Dr Lawrence H. Summers, Harvard University's beleaguered President, is not that he often puts his foot in his mouth. We all do that. It's human nature to blurt things out and later wish we hadn't. I can't count the number of times I should have put my brain in gear before letting up the clutch on my tongue. (When I was interviewed for my first job, I actually said, "Oh, salary isn't that important to me." They never forgot that.) No, what makes Summers-watching such an irresistible sport - albeit a morbid one, rather like auto racing fans who attend to see crashes - is not seeing him put his foot in his mouth; it's wondering how he'll manage to get the other foot in there with it.

To be fair, during his three years as Harvard President, Summers, an economist by profession, has instituted what I believe to be important financial reforms, championed the cause of undergraduate education, and begun plans for an ambitious third campus between the existing main campus and the medical school site. But, prior to becoming president of Harvard, he endorsed an internal World Bank memo suggesting that the US should move its worst-polluting industries to developing countries, who would be more inclined to accept them because they need to boost their economies. As president, he denounced as anti-Semitic a movement that seeks to have institutions like Harvard divest themselves of investments in Israel because of that nation's treatment of the Palestinians. And he alienated a renowned black professor, who promptly decamped to Princeton - a departure that destabilized Harvard's once excellent African-American Studies department, which has since lost other members. Now I guess I have as much Schadenfreude as anyone, and there is something that appeals to all of our iconoclastic tendencies in the spectacle of an enormously talented, accomplished individual behaving - and there really is no other way to put this - like the opposite of the front end of a horse. But the recent flap over remarks made by Summers at a 14 January conference of the National Bureau of Economics Research represents a new high in lows, even for him.

Unless you're a cave-dweller you probably have heard that this incident concerns the issue of women in science. Women, on average, get better grades in school, earn as many bachelor's degrees in science and engineering, and nowadays attend graduate school in the sciences in about the same numbers as men. But by the time men become tenured faculty in science and engineering, they vastly outnumber women. The conference, which concerned the topic of diversity in the workplace, asked Summers to comment on this drop-off. "It is, after all, not the case that the role of women in science is the only example of a group that is significantly underrepresented in an important activity and whose underrepresentation contributes to a shortage of role models for others who are considering being in that group", he said. "To take a set of diverse examples, the data will, I am confident, reveal that Catholics are substantially underrepresented in investment banking; that white men are very substantially underrepresented in the National Basketball Association; and that Jews are very substantially underrepresented in farming and in agriculture... There are three broad hypotheses about the sources of the very substantial disparities that this conference's papers document and have been documented before with respect to the presence of women in high-end scientific professions... The first is what I would call the high-powered job hypothesis. The second is what I would call different availability of aptitude at the high end, and the third is what I would call different socialization and patterns of discrimination in a search. And in my own view, their importance probably ranks in exactly the order that I just described." He went on to elaborate, defining the first hypothesis as the idea that married women are not prepared to make a near-total commitment to their work, and the socialization hypothesis as the notion that women are driven away from mathematics and science by societal pressures. He stated that he would not assign much weight to the socialization hypothesis. And he went on to make the explicit statement that, "in the special case of science and engineering, there are issues of intrinsic aptitude, and particularly of the variability of aptitude." (You can read the full transcript of his remarks at <http://www.president.harvard.edu/speeches/2005/nber.html>. It's a pity there isn't

a recording of his speech, because tone of voice can make a big difference in matters like this. A letter from Summers to the Harvard faculty explaining and apologizing for his remarks can be found at <http://www.president.harvard.edu/speeches/2005/facletter.html>).

Several times in his speech, Summers stated that it was his intention to be “provocative”. He certainly succeeded: one woman scientist who was attending the meeting walked out in the middle of his remarks (a gesture that strikes me as counterproductive; I’ve always felt that ideas that are wrong or biased or stupid need to be confronted and exposed for what they are), and within days there were calls for his resignation from both men and women faculty, in the sciences and the humanities. Some colleagues - nearly all fellow economists, interestingly - rushed to his defense, claiming that he was performing a valuable service by focusing attention on a subject that needed more research, and that his detractors were egregious examples of political correctness gone amok.

I don’t accept those arguments, for several reasons. First, they imply that what he said wasn’t so bad. To judge that, try this simple exercise: take his comment on “intrinsic aptitude” and replace “women” with, say, “African-Americans” (another group underrepresented in high-end science positions), and then ask yourselves how long he would have remained as Harvard President had he said that. My guess is about five minutes. The fact that he has defenders at all says more about the relative powerlessness of women in our society than it does about the merit of what he said. And doesn’t it smack of colonialism for a member of the majority to assume that because a different group is underrepresented in some profession they must be in part responsible for that? Up until the 1950s, Jews were underrepresented in nearly all academic departments at high-end universities in the United States. As Summers surely knows, that wasn’t because of any “intrinsic aptitude” differences; it was because of a discriminatory quota system that limited their numbers.

As for the need for more research on this topic, I’ve found that Summers has a somewhat complicated history on the issue of data. He is famous among economists for an aphorism he coined to illustrate the importance of private property: “In the history of the world, no one has ever washed a rented car.” Coincidentally, when the commotion arose over his comments on women in science, I was on a trip where I needed to rent a car, so while I was at it, I went and asked the Avis manager whether anyone ever washed their rented cars before returning them. “Sure,” he said, looking surprised I would need to ask, “it happens all the time.” When I asked why they would do that, he said that some people were simply nice and hated to return a car that had become too filthy, while others, usually business people, washed them because they wanted to make the best possible impression on the customers they were driving around. Now I don’t want to make the mistake of generalizing from

my own experience - that may be exactly the sort of thing that has gotten Summers in trouble - but this little episode does make me wonder if he might not have a habit of stating things that he believes ought to be true without bothering to check on the facts.

And in the case of women in science, the facts are quite clear: there isn’t a shred of credible evidence to suggest that there is a difference in “intrinsic aptitude” between men and women when it comes to mathematics and science, and quite a lot of evidence to suggest that there is no significant difference at all. One observation that is sometimes cited to support the idea that there might be a difference is the greater spread of men’s standardized test scores compared with women’s. Stephen Pinker, a Harvard psychologist and defender of Summers, calls this the “more geniuses, more idiots” phenomenon. Unfortunately, when one looks at the same statistics in other countries, many, such as Japan, do not show this difference at all, while in other countries, like Iceland, the curves are reversed and it is women who have more top scores than men. That seems more like “socialization” than any difference in innate abilities to me. Nor is it reasonable to argue that the Japanese and Icelandic results reflect some ethnic variability in aptitude. Anyone who has followed the genomics revolution will know that the genome sequences of humans show so little variation from one ‘race’ to another that genetic differences should never be invoked as the first explanation for any differences in behavior or apparent abilities. Research by Elizabeth Spelke, a professor of experimental psychology at Summers’ own institution, also seems to disprove the idea of any intrinsic differences. She has studied the cognitive abilities of infants and young children for years and found that boys and girls show no significant differences at those ages. Any latter discrepancies, then, would seem more likely the product of environment than genetics.

Besides, I think the whole notion that performance on standardized tests is a useful predictor of who will succeed in mathematics or science careers is suspect. I don’t know of any studies that show such a correlation, and my own experience suggests that matters of character and temperament (persistence, imagination, curiosity, and so on) are much more important to later success. And if Summers wants to use the fact that Harvard has few tenured women in the sciences as evidence that there is some intrinsic inability that hinders their success at the highest levels, the fact that Harvard also has one of the most dismal records in American academia for hiring and promoting women would seem to me to be the more likely reason.

With all that in mind, let’s look at Summers’ other two hypotheses again. The first was that women are much less likely to want to put in 80-hour work weeks than men. Well, gee, Larry, if that’s true, don’t you think that might just possibly be because in addition to that they have to put in

about another 80 hours a week of child care and housework? I know of very few instances of families in which the woman doesn't do a lot more than 50% of the parenting and household chores, even when her husband is quite supportive. If the high-powered job hypothesis has any validity, then the obvious solution is for organizations like Harvard, which has a \$24 billion endowment, to spend some of that money on services that alleviate the other time sinks a woman faces. Providing affordable, convenient day care for her children would be one helpful action. Paying her enough so that she can afford some additional household help would be another. Yet another would be to hire a large bolus of women immediately, enough so that they would no longer be such a minority that those who do succeed find themselves disproportionately deluged with committee assignments and other responsibilities where gender balance is needed.

The third hypothesis was that of socialization, and I think we must never underestimate that. Even in our supposedly enlightened era, women face discrimination, both overt and unconscious, when they try to make careers in formerly male-dominated professions like mathematics, many of the sciences, and engineering. Small slights and small disadvantages add up over a lifetime, leading to severe inequalities of pay and promotion, which in turn makes those professions less desirable. I've always felt that the best argument for affirmative action (positive discrimination) is that, left to themselves, most people prefer to be surrounded with others who look like them, a trait that tends to perpetuate male-dominated environments even when bias seems absent. I suspect that many women shun testosterone-saturated fields such as surgery, synthetic organic chemistry and nuclear physics in large part because they aren't made to feel welcome and they don't wish to feel isolated all the time. I remember vividly when my Brandeis colleague Dagmar Ringe - a world-class scientist, Dr Summers - walked into my office and said with a sigh, after some meeting in Washington, "I am so tired of being the only woman in the room." I realized with a shock that I have never been the only man in the room, and I bet Summers never has been either. One of the best things we can do to encourage young women to enter mathematics and science is to provide them with lots of role models, and to treat those role models as fairly as possible.

I wonder how many women Summers has trained in his profession. I've trained quite a few in mine and I have noticed one difference between them and my male students. Almost without exception, the talented women I have known have believed they had less ability than they actually had. And almost without exception, the talented men have believed they had more. Now, I don't know what the origin of this difference is, whether it's innate or cultural, and I don't really care either. But I bet it's largely cultural. Any teacher will tell you that if pupils are told they're likely to fail, they will. I don't see how women can go through life

constantly being told that they can't do mathematics or science and not doubt themselves.

Isn't it ridiculous that in many cases we are trying to solve 100% of our problems with only about 50% - perhaps a lot less if my mother is right - of the available brainpower? If we want to do something about that, we can, and should, use the financial resources of our institutions to redress the serious inequities and problems that bright, ambitious women face in the scientific workplace. And we can, and should, fight discrimination wherever we find it in that workplace, and in the training environment that leads to there. But perhaps most of all, we should do everything we can to encourage women to believe that they can succeed in science and engineering. If many bright women constantly struggle against a voice inside their heads that keeps repeating, "You're not good enough," the last thing they need is some powerful male, with both feet firmly in his mouth, spouting the same nonsense.