

# SPEAKER'S CORNER

## Persistent toxic substances: exposed individuals and exposed populations

On the lintel of his classic *The strategy of preventive medicine*,<sup>1</sup> Geoffrey Rose (1926–1993) inscribed these words of Fyodor Dostoyevsky (1821–1881): “We are all responsible for all”. The idea that as citizens and societies we have shared, common responsibilities in front of threats to health is central to epidemiology, public health, even to clinical medicine... and to virtually all other professions and scientific disciplines. Why should it not also be relevant to urbanism, pedagogy, biology, or chemistry? It is of course also central to literature and most other forms of artistic expression.

In the following fragment of his poem *Palabras para Julia*<sup>2</sup> (*Words for Julia*), the Spanish writer José Agustín Goytisolo (Barcelona, 1928–1999) wrote:

Un hombre solo una mujer  
así tomados de uno en uno  
son como polvo no son nada.  
Tu destino está en los demás  
tu futuro es tu propia vida  
tu dignidad es la de todos.

A man alone, a woman,  
taken like that, one by one,  
are like dust, they are nothing.  
Your destiny is in the others  
your future is your own life,  
your dignity that of everyone.

The poem has been part of the Spanish collective imagery for decades,<sup>3</sup> largely thanks to the singer Paco Ibáñez (1934–), who put music to the poems of Goytisolo and many other ancient and contemporary Spanish poets.

Today the contamination by persistent toxic substances (PTS) of the general population<sup>4–8</sup> gives a wide range of new meanings to Dostoyevsky's words and to Rose's work. For, although there is barely anything on PTS in Rose's book—not to mention Dostoyevsky's...—, it is easy to imagine that Rose too would frown and give careful thought to the multi-dimensional, “glocal” reality<sup>9</sup> of PTS, as he did to other environmental problems. Inherited from the most widely accepted socioeconomic models of the 20th century, the low dose, virtually universal presence of PTS in the environment, the food chain, and most human populations is a direct, very real result of the way we all live.<sup>4–5</sup> A consequence of how private and public policies—food, agricultural, industrial, and environmental policies—shape our internal and external milieus.

We are all responsible for all, we need collective mechanisms of protection, there's little you—alone, as an individual—can do to escape exposure, there is no place to hide.<sup>8</sup> *Nowhere to hide* is precisely the title of a report by Kristin Schafer and colleagues on persistent toxic chemicals in the US food supply.<sup>11</sup> The study stimulated an intense debate in the *JECH* not long ago<sup>12–20</sup>; it is ever lively, according to the many visits that such papers receive.

We find new facets of—and potential solutions to—the PTS problem in recent developments in the European Union (EU). The presence of PTS in the human body and their potential harmful effects is among the problems addressed by the European Commission's recent proposal for a new regulatory framework for chemicals, named REACH (Registration, Evaluation, Authorisation and Restrictions of Chemicals).<sup>21</sup> To illustrate pedagogically the problem of PTS and one way to address it, Margot Wallström, EU Commissioner for Environment, participated in a bio-monitoring survey conducted by the World Wildlife Fund (WWF) and the Department of Environmental Sciences of Lancaster University. The results of the tests gave an image of the chemicals to which Wallström has been exposed throughout her life, and which have accumulated in her body.<sup>21</sup> Of the 77 chemicals analysed, 28 chemicals were detected in Mrs Wallström's blood (to the best of my knowledge, the actual concentrations were not publicised by the EU Commission). While these findings should not leave us indifferent, they are not particularly alarming. Mainly, because similar results would be obtained in most of us. But, would it not be more coherent to say that similar results would be obtained “in our populations”,<sup>1,22</sup> should we have the appropriate surveillance systems in place? Do we not know that there's no effective individual escape from PTS? Then the path to follow is not to perform individual measurements of PTS, but population surveillance and control of PTS. Indeed, “Geoffrey Rose's big idea”<sup>23</sup> (changing the population distribution of a risk factor prevents more burden of disease than targeting people at high risk) is perfectly relevant to PTS—perhaps even more than to classic risk factors for chronic diseases.<sup>4–8</sup> The only way forward is to shift the population distribution of PTS.

Commissioner Wallström knows too that her own individual concentrations of PTS are not that important; rather, the message is that the presence of PTS in her blood “shows that nobody can escape contamination by chemicals” alone, as an individual.<sup>21</sup> That only collective mechanisms of protection will shift the population distribution of PTS. This is a main epidemiological reason to support REACH, as well as population surveys on PTS concentrations,<sup>6</sup> such as the US National Report on Human Exposure to Environmental Chemicals.<sup>24</sup>

Furthermore, if REACH is not watered down, if it does reach significant implementation throughout Europe over the next decade, the system has the potential to pedagogically show one way that “we can all care for all”. It could thus join the Stockholm treaty on persistent organic pollutants and other “glocal” mechanisms in fostering changes in food, industrial, and environmental policies.

Persistent toxic substances offer both old and new challenges to epidemiology and public health. Not least among them is the need to explain findings on PTS exposure and effects in a way that is culturally acceptable to wide sectors of our societies. Otherwise PTS will only cause more fear.<sup>4–25</sup> Because we aim at societies as free from fear as possible, we should also develop a scientific pedagogy that is more culturally sustainable.

A previous version of this essay was published in Spanish in *Gaceta Sanitaria*.<sup>3</sup>

**M Porta**

*Institut Municipal d'Investigació Mèdica, Universitat Autònoma de Barcelona, Spain, and School of Public Health, University of North Carolina at Chapel Hill, USA*

Correspondence to: Professor M Porta, Carrer del Dr Aiguader 80 Barcelona, Spain; mporta@imim.es

## REFERENCES

- Rose G. *The strategy of preventive medicine*. Oxford: Oxford University Press, 1992.
- Goytisolo JA. Palabras para Julia. In: *Palabras para Julia y otras canciones*. 3rd edn. Barcelona: Laia, 1982:13–15.
- Porta M. Tu dignidad es la de todos. *Gac Sanit* 2002;**16**:195.
- Porta M. Bovine spongiform encephalopathy, persistent organic pollutants and the achievable utopias. *J Epidemiol Community Health* 2002;**56**:806–7.
- Porta M, Zumeta E. Implementing the Stockholm treaty on POPs. *Occup Environ Med* 2002;**59**:651–2.
- Porta M, Zumeta E, Ruiz L, et al. Persistent toxic substances and public health in Spain. *Int J Occup Environ Health* 2003;**9**:112–17.
- Porta M, Kogevinas M, Zumeta E, et al. Concentraciones de compuestos tóxicos persistentes en la población española: el rompecabezas sin piezas y la protección de la salud pública. *Gac Sanit* 2002;**16**:257–16 (<http://db.doyma.es/cgi-bin/wdbcgi.exe/doyma/mrevista.fulltext?pid=13032395>).
- Institute of Medicine. *Dioxins and dioxin-like compounds in the food supply. Strategies to decrease exposure*. Washington, DC: The National Academies Press, 2003.
- Kickbusch I. Global+local = glocal public health. *J Epidemiol Community Health* 1999;**53**:451–2.
- Lang T. The new globalisation, food and health: is public health receiving its due emphasis? *J Epidemiol Community Health* 1998;**52**:538–9.
- Schafer KS, Kegley SE, Patton S. Nowhere to hide. *Persistent toxic chemicals in the US food supply*. 2nd edn. San Francisco: Pesticide Action Network North America y Commonweal, 2001 (<http://www.panna.org/resources/documents/nowhereToHideAvail.dv.html>).
- Schafer KS, Kegley SE. Persistent toxic chemicals in the food supply. *J Epidemiol Commun Health* 2002;**56**:813–17.
- Bolger PM, Egan K, Jensen E, et al. Persistent organic pollutants exposure assessment using the US Total Diet Study. *J Epidemiol Community Health* 2002;**56**:818–19.
- Hansen LG. Persistent organic pollutants in food supplies. *J Epidemiol Community Health* 2002;**56**:820–1.
- Benbrook CM. Organochlorine residues pose surprisingly high dietary risks. *J Epidemiol Community Health* 2002;**56**:822–3.
- Damstra T, Page SW, Herrman JL, et al. Persistent organic pollutants: potential health effects? *J Epidemiol Community Health* 2002;**56**:824–5.
- Solomon GM, Huddle AM. Low levels of persistent organic pollutants raise concerns for future generations. *J Epidemiol Community Health* 2002;**56**:826–7.
- Van Larebeke N, Covaci A, Schepens P, et al. Food contamination with polychlorinated biphenyls and dioxins in Belgium. Effects on the body burden. *J Epidemiol Community Health* 2002;**56**:828–30.
- Fattore E, Fanelli R, La Vecchia C. Persistent organic pollutants in food: public health implications. *J Epidemiol Community Health* 2002;**56**:831–2.
- Bengtsson G. Persistent toxic chemicals: more than Stockholm persistent organic pollutants. *J Epidemiol Community Health* 2002;**56**:833–4.
- European Commission. Press Room, EU Institutions press releases. Presence of persistent chemicals in the human body results of Commissioner Wallstrom's blood test. DN: MEMO/03/219, 6 Nov 2003 (<http://www.europa.eu.int/rapid/start/>).
- Rose G. Sick individuals and sick populations. *Int J Epidemiol* 1985;**14**:32–8.
- Hofman A, Vandenbroucke JP. Geoffrey Roses's big idea. *BMJ* 1992;**305**:1519–20.
- Centers for Disease Control and Prevention, National Center for Environmental Health. *Second national report on human exposure to environmental chemicals*. NCEH Pub no 03–002 (Jan 2003) (<http://www.cdc.gov/exposurereport/>).
- Porta M, Morabia A. Why aren't we more ahead? The risk of variant Creutzfeldt-Jakob disease from eating bovine spongiform encephalopathy–infected foods, eight years after: still undetermined. *Eur J Epidemiol* 2004;**19**:287–9.

## THE JECH GALLERY

doi: 10.1136/jech.2003.008813

### Influential women in occupational health Margaret M Seminario—Labour Leader in the 20th century



August 1953–, Country of birth: USA

When Margaret (Peg) Seminario secured an internship with the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) in 1977, she began a career that now spans over a quarter century with the organisation. In the decades since, she has established herself as a strong labour activist, particularly for her dedication to the promulgation of an ergonomics standard.

“...too many workers indeed are being hurt, are suffering, are in pain, are being disabled by musculoskeletal diseases related to their work.”

Seminario is Director of the Department of Occupational Safety and Health for the AFL-CIO, a federation of 65 national and international unions representing 13 million working men and women and their families. She has participated in a wide range of regulatory and legislative initiatives, including air contamination regulations, legislative reform of the 1970 Occupational Safety and Health Act, and 20 OSHA rule makings, including those on benzene, beryllium, lead, cancer policy, hazard communication, hearing conservation, formaldehyde, asbestos, air contaminants, respiratory protection, grain handling, hazardous waste operations, and ergonomics.

**Deborah F Salerno**

Clinical Communications Scientist, Pfizer Global Research and Development, Michigan Laboratories, Ann Arbor, MI, USA

**Ilise L Feitshans**

Adjunct Faculty, Cornell University, School of Industrial and Labor Relations, Albany, NY, USA

Correspondence to: Deborah F Salerno, 2800 Plymouth Road, Ann Arbor, MI 48105, USA; [deborah.salerno@pfizer.com](mailto:deborah.salerno@pfizer.com)