



Global warming
and lizards

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household and government consumption contributed 15% (4, 5).

Liu discusses population control and household size, but a more dominant issue in terms of population dynamics is the migration from rural to urban areas (6). From 1990 to 2007, the urban population increased by 292 million, whereas the rural population decreased by 116 million (3). Urban dwellers, even if migrants from rural areas, have a higher income (3) and hence higher energy use and environmental impacts (2, 6).

A key challenge for China is to continue strong economic growth while minimizing environmental impacts. Reductions in emis-

sions per unit of GDP are unlikely to reduce total emissions if economic growth continues (1). China will need to combine aggressive domestic policies with international support to reverse the current growth in coal-dominated energy use and emissions.

GLEN P. PETERS,^{1*} DABO GUAN,²
KLAUS HUBACEK,^{3,4} JAN C. MINX,^{5,6}
CHRISTOPHER L. WEBER⁷

¹Center for International Climate and Environmental Research-Oslo (CICERO), Norway. ²Cambridge Centre for Climate Change Mitigation Research, Department of Land Economy, University of Cambridge, UK. ³Sustainability Research Institute, School of Earth and Environment, University of Leeds, UK. ⁴Department of Geography, University of Maryland, College Park, MD 20742, USA. ⁵Stockholm Environment Institute, University of York, York YO10 5DD, UK.

*Department for the Economics of Climate Change, Technical University Berlin, 10623 Berlin, Germany. ¹Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA 15213, USA.

*To whom correspondence should be addressed. E-mail: glen.peters@cicero.uio.no

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Risks of Immune System Treatments

WE WISH TO ADD SEVERAL POINTS TO THE News Focus story "Replacing an immune system gone haywire" (J. Couzin-Frankel, 12 February, p. 772).

First, a great deal of research had already been done before the 1996 Basel meeting mentioned in the story. Stem cell transplants had been studied in animal models of autoimmune disease (1-5). Patient stem cell transplant protocols had been written, and a few human patients had already been treated specifically for autoimmune disease (6-10).

Second, we would like to stress the varying levels of risk in the treatment strategies described in the story. The immune system originates from hematopoietic stem cells (HSCs). Before receiving a transplant, patients with autoimmune diseases receive "conditioning" chemotherapy or radiation that destroys lymphocytes, inducing an immediate immune cease-fire. Subsequently, HSCs are infused to regenerate a new self-tolerant immune system. Sullivan and Nash advocate conditioning regimens with high doses of radiation. These extreme regimens cause irreversible bone marrow failure, thus requiring mandatory HSC reinfusion. The rationale for this high-dose strategy is that maximal ablation of the immune system will translate into longer and more durable disease remission. In contrast, we advocate less extreme regimens of chemotherapy, which can halt inflammation without altering the bone marrow's ability to recover. The News Focus article also comments on the risk of infertility when patients are pre-treated with chemotherapy. We emphasize that the risk of infertility is higher for the more extreme regimens.

TECHNICAL COMMENT ABSTRACTS

COMMENT ON "Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome"

Cathie Sudlow, Malcolm Macleod, Rustam Al-Shahi Salman, Jon Stone

Lombardi *et al.* (Reports, 23 October 2009, p. 585) reported an association between the human gammaretrovirus XMRV and chronic fatigue syndrome. However, their results may be misleading because of various potential sources of bias and confounding. If real, the association may lack generalizability because of the specific characteristics of the cases studied and could be due to reverse causality.

Full text at www.sciencemag.org/cgi/content/full/328/5980/825-a

COMMENT ON "Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome"

Andrew Lloyd, Peter White, Simon Wessely, Michael Sharpe, Dedra Buchwald

Lombardi *et al.* (Reports, 23 October 2009, p. 585) reported a significant association between the human retrovirus XMRV and chronic fatigue syndrome (CFS). However, the cases with CFS and the control subjects in their study are poorly described and unlikely to be representative. Independent replication is a critical first step before accepting the validity of this finding.

Full text at www.sciencemag.org/cgi/content/full/328/5980/825-b

COMMENT ON "Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome"

Jos W. M. van der Meer, Mihai G. Netea, Jochem M. D. Galama, Frank J. M. van Kuppeveld

Lombardi *et al.* (Reports, 23 October 2009, p. 585) reported detection of the human gammaretrovirus XMRV in the blood cells of patients with chronic fatigue syndrome (CFS). However, the patient description provided was incomplete. The inclusion of patients from a "CFS outbreak" previously linked with a viral infection, without confirmation in sporadic CFS cases, casts doubt on the role of XMRV in the pathogenesis of CFS.

Full text at www.sciencemag.org/cgi/content/full/328/5980/825-c

RESPONSE TO COMMENTS ON "Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome"

Judy A. Mikovits and Francis W. Ruscetti

We reported the detection of the human gammaretrovirus XMRV in 67% of 101 patients with chronic fatigue syndrome (CFS) and in 3.7% of 218 healthy controls, but we did not claim that XMRV causes CFS. Here, we explain why the criticisms of Sudlow *et al.*, Lloyd *et al.*, and van der Meer *et al.* regarding the selection of patients and controls in our study are unwarranted.

Full text at www.sciencemag.org/cgi/content/full/328/5980/825-d

Finally, although the News Focus story comments on problems obtaining insurance approval in the United States, medical funding is a worldwide issue, including in countries with government-funded health services. In addition to patient safety benefits, less toxic regimens also cost any health care system less money, because patients are less likely to suffer complications such as secondary cancers.

RICHARD K. BURT,^{1*} MARIO ABINUN,²
DOMINIQUE FARGE-BANCEL,³
ATHANASIOS FASSAS,⁴ FALK HIEPE,⁵
EVA HAVRDOVÁ,⁶ SUSUMU IKEHARA,⁷
YVONNE LOH,⁸ ALBERTO MARMONT DU HAUT
CHAMP,⁹ JÚLIO C. VOLTARELLI,¹⁰
JOHN SNOWDEN,¹¹ SHIMON SLAVIN¹²

¹Division of Immunotherapy, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL 60611, USA. ²Newcastle General Hospital, Newcastle Upon Tyne, UK. ³Service de Médecine Interne et Pathologie Vasculaire, Inserm U976, Hôpital Saint-Louis, 75010 Paris, France. ⁴Hematology Department, Bone Marrow Transplantation Unit, Cell and Gene Therapy Center, George Papanicolaou Hospital, 57010 Exokhi, Thessaloniki, Greece. ⁵Charité University Medicine Berlin, Department of Rheumatology and Clinical Immunology and German Rheumatism Research Centre Berlin, A Leibniz Institute, Charitépaltz 1, D-10117 Berlin, Germany. ⁶MS Center, Department of Neurology, First Medical Faculty, Charles University in Prague, Katerinská 30, 128 08, Prague, Czech Republic. ⁷Department of Pathology, Regeneration Research Center

for Intractable Diseases, Center for Cancer Therapy, Kansai Medical University, 10-15 Fumizono-cho, Moriguchi City, Osaka 570-8506, Japan. ⁸Department of Haematology, HSC1 Program, Singapore General Hospital, 169608 Singapore. ⁹Division of Hematology and Stem Cell Transplantation, Azienda-Ospedaliera Universitaria San Martino, Genoa, Italy. ¹⁰University of São Paulo (USP), Hemocentro Regional e Unidade de Transplante de Medula Óssea-HCF-MRP-USP, Rua Tenente Celso de Mello, 2501, CEP 14051-140, Ribeirão Preto, São Paulo, Brazil. ¹¹Sheffield Teaching Hospitals NHS Trust, University of Sheffield, UK. ¹²The International Center for Cell Therapy and Cancer Immunotherapy (CTCI), Weizman Center, Tel Aviv, Israel.

*To whom correspondence should be addressed. E-mail: rburt@northwestern.edu

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CORRECTIONS AND CLARIFICATIONS

Letters: "Climate change and the integrity of science" by P. H. Gleick *et al.* (7 May, p. 689). Due to an editorial error, the original image was not a photograph but a collage. It was a mistake to have used it. The image link available at www.sciencemag.org/cgi/content/full/328/5979/689/DC2 has been replaced in the HTML version and in the online PDF by an unaltered photograph from National Geographic (CREDIT: Paul Nicklen/National Geographic/Getty Images) of two polar bears on an ice floe.

News Focus: "Meeting briefs: The ins and outs of HIV" by J. Cohen (5 March, p. 1196). The earliest report of HIV predominantly entering cells through endocytosis appeared in C. D. Pauza, T. M. Price, *J. Cell Biol.* **107**, 959 (1988).

Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 3 months or issues of general interest. They can be submitted through the Web (www.submit2science.org) or by regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.



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