YFILES
YFILES
TO: Edward Urbansky
FROM: Roger Masters

Thank you for your thoughtful message on familial health problems.
I've been meaning to respond to your statements especially since the email correspondence with Cherie Trine has been so widely disseminated. Her recent answer makes it more important for me to emphasize a number of factual and scientific errors in your criticism of the many peer-reviewed articles that I have published (most with Myron J. Coplan) on the neurotoxicity of fluosilicic acid and sodium silicofluoride as water treatment chemicals.

First, however, a personal note to confirm a remark that Cherie Trine made in her last email to you. I am NOT an "anti-fluoridationist": I use fluoridated toothpaste and a fluoride gel (both with sodium fluoride).
Since our research does not show that water treated with sodium fluoride has effects comparable to those observed where silicofluorides are in use and since sodium fluoride was at least tested for its toxicity, I find myself disagreeing with ANY discussion of "fluoridation" (pro OR con) that does not refer precisely to the chemicals used for this purpose. Our specific position is that there should be a moratorium on the use of fluosilicic acid and sodium silicofluoride (the "silicofluorides") until extensive independent testing on animals shows their safety.

Second, although silicofluorides are added to public water supplies for a health-related purpose, the effect of chronic exposure to these compounds has never been tested and neither the EPA nor the CDC has POSITIVE evidence of their safety. An ASSUMPTION in the chemistry of dissociation is not adequate as evidence of safety: for example, many silicon compounds can be toxic and no one knows whether such compounds are formed when fluosilicic acid or sodium silicofluoride is injected in a public water supply. I would appreciate knowing of ANY drug newly developed for medical usage that is sold in drugstores with a comparable lack of testing. Even more questionable, of course, is the compulsory exposure of large populations to such untested chemical compounds. As a result, the testing of silicofluorides should not be limited to chemical studies of "dissociation" since such research ignores the possibility of the formation of new compounds with toxic effects either in the water flow or after ingestion of water treated with silicofluorides.

Third, you have often written that we have no evidence that the silicofluorides leach lead from water pipes as if this was a reason to dismiss our publications. SUCH AN EFFECT IS IN NO WAY ESSENTIAL TO OUR FINDINGS AND INDEED HAS NEVER BEEN DISCUSSED AS THE PRINCIPAL HYPOTHESIS EXPLAINING THE HARMFUL ASSOCIATIONS WE HAVE FOUND.

Fourth, we have repeatedly stated a different point. WHERE THERE IS LEAD IN THE ENVIRONMENT (e.g., older housing with lead paint), water treated with silicofluorides

enhances biological UPTAKE of this exposure to environmental lead (as measured by children's blood lead levels). We have even published empirical evidence consistent with this hypothesis. (If you don't understand why a two way analysis of variance with a significant interaction term is an important finding in this regard, please let me know and I'll explain it to you).

Fifth, as evidence that an untested chemical is a toxin that needs laboratory study, one does NOT have to present a demonstrated experimental finding of the mechanism involved. That's absurd: our point is that the necessity of such studies is established by the repeated finding of a statistically significant association between silicofluoride usage and harmful effects (using different methods and different dependent variables) -- especially when multivariate models control for up to a dozen or more confounding independent variables.

Sixth, as a test of ecological factors that increase lead toxicity, I have found—along with many other famous scientists (most notably Prof. Herbert Needleman of Pittsburgh) –that behavioral dysfunctions related to lead neurotoxicity are especially important. YOU PERSISTENTLY AVOID ANY REFERENCE TO MY RESEARCH IN THIS FIELD, WHICH BEGAN LONG BEFORE STUDIES WITH MYRON COPLAN ON SILICOFLUORIDES AND WHICH ARE BASED ON KNOWN EFFECTS OF LEAD ON NEUROTRANSMITTERS SUCH AS DOPAMINE, WHOSE ROLE IN LEARNING AND BEHAVIORAL INHIBITION IS WELL ESTABLISHED.
The data on lead and crime are well known and, indeed, Prof.Needleman just published another paper showing this effect. (If there were even a single additional murder in a city using silicofluorides, how many cavities would have to be prevented by adding fluosilicic acid to a city's water supply to justify the practice?) Since I've recently published two different papers with further evidence linking silicofluoride treated water with higher rates of violent crime, your refusal to accept our finding is making some observers suspect that non-scientific factors influence your position. Having spent two years in the Foreign Service (as Cultural Attache at the U.S. Embassy to France), I'm well aware of the difference between bureaucracy and science. If that isn't the explanation, I am puzzled since your remarks on our work fail to refer to the substance of our research methods and findings in a competent and comprehensive manner. For convenience, I am adding below a bibliographical summary. Should you want to see any of these papers (such as the most recent publication in the book on violence edited by Bloom and Dess), please let me know.

Sincerely, Roger D. Masters

Publications_on_Silicofluorides,_Neurotoxicity,_and_Behavior_

Masters,_R,,_Hone,_B,_and_Doshi,_A.___(1998).__"Environmental_Pollution,__Neurotoxicity,_and_Criminal_Violence,"_in_J._Rose,_ed.,_Environmental__Toxicology:_Current_Developments_(London:_Gordon_and_Breach,_1998),_pp.__13-48.

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behavior_and_crime,_presenting_multivariate_analysis_correlating_Toxic__
Release_Inventory_for_lead_and_manganese_with_crime_data_for_1991_from_all__
3141_US_counties____Emphasizes_effects_of_heavy_metals_on_neurotransmitter__
function_and_behavior._
Masters,_Roger_D.,_with_Baldwin_Way,_Brian_T._Hone,_David_J._Grelotti,__
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(including_data_from_Toxic_Release_Inventory_and_crime_for_partial_sample__
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crime),_using_data_from_National_Institute_of_Justice_study_of_drug_use_in__
over_30,000_criminal_offenders_at_time_of_arrest).__Data_show_that_where__
silicofluorides_are_in_use,_criminals_are_more_likely_to_consume_alcohol,__
more_likely_to_have_used_cocaine_at_time_of_arrest__

and_that
communities__
have_significantly_higher_crime_rates._
Masters,_R.D.,_Coplan,_M._J.,_Hone,_B.T.,_and_Dykes,_J.E.__
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statistical_study_of_151,225_venous_blood_lead_(VBL)_tests_taken_from__
children_ages_0-6_inclusive,_living_in_105_communities_with_populations__
from_15,000_to_75,000_in_New_York_state,_shows_for_every_age_and_racial__
group_a_significant_association_between_silicofluoride_treated_community__
water_and_elevated_blood_lead.___
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of_the_scope_of_the_emerging_subfield_called_"biopolitics,"__
reflecting_the_activities_of_the_membership_of_the_Association_for__
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depression,_and_violent_crime),_3)_the_specific_case_of_silicofluorides_in__
water_treatment_and_their_effect_in_enhancing_lead_uptake;_and_4)__
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Note:_one-time_e-print_available_at_following_URL:_
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(Westport:_Praeger),_pp._275-296_(Ch._15)._
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including_evidence_of_the_role_of_lead_and_other_heavy_metal_pollution_and__
crime_(as_demonstrated_by_individual_data,_neurochemistry,_and_both__
geographic_and_longitudinal_data}_as_well_as_survey_of_data_linking__
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on_the_extremely_high_correlation_(r_=_.90)_between_gallons_of_leaded__
gasoline_sold_and_the_crime_rates_sixteen_years_later,_confirming_special__
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associated_with_increased_rates_of_violent_crime,_with_extensive__
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Representative_Kenneth_Calvert,_Subcommittee__on_Energy_and_Science,__
Committee_on_Scienc_e,_U._S._House_of_Representative_(August_12,_1999)._
Analysis_and_rejoinder_to_letter_dated_12_June_1999_from_J._Charles_Fox,__
Assistant_Administrator,_EPA,__to_Hon.Kenneth_Calvert,_U._S._House_of__
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This_document_contains_a_preliminary_review_of_scientific_data_on_the__

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and_Na2SiF6),_with_an_emphasis_on_the_complex_production_process_and__
chemical_interactions_of_the_latter_compounds._
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Violence_Epidemic:_Toward_a_'Win-Win'_Strategy_for_Reducing_Crime,"_in__
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Nagel,_ed.,_Super-Optimizing_Examples_Across_Public_Policy__
Problems__(NOVA_Science_Publishers)_(in_press).__
Review
of
the_evidence_linking_neurotoxicity_and_crime,_using_data_from__
both_county-level__study_(correlating_EPA_Toxic_Release_Inventory_with_FBI__
crime_reports_)_and_Massachusetts_data_on_silicofluorides_and_lead_uptake._
Web-site:___
Address_for_research_(with_M._J._Coplan)_on_health_and__
behavioral_effects_of_silicofluorides:__
http://www.dartmouth.edu/~rmasters/ahabs.htm_
Presentations_to_Scientific_Conferences:_
Masters,_R.D._and_Coplan,_M.J.___"Silicofluoride_Usage_and_Lead_Uptake,"__
Presentation_to__XXIInd_Conference_of_the_International_Society_for__
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using_silicofluoride,_based_on_sample_of_over_250,000_children_in__
Massachusetts_(see_Masters_and_Coplan,_1999a)_
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and_Human_Behavior,"_Plenary_address_to_Annual_Conference_of_the__
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Atlanta,_GA_(September_2,_1999)._
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of_evidence_linking_heavy_metal_pollution_with_substance_abuse_and__
crime,
including_presentation_of_data_linking_ban_on_sales_of_leaded__
gasoline_with_decline_in_crime_16_years_later.___Summary_of_geographical__
data_analyses_contradicting_the_"null_hypothesis"_that_there_is_no__
difference_in_the_effects_of_sodium_fluoride_and_the_silicofluorides._
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Tooth_Decay_and_Children's_Blood_Lead,"_Poster_presentation_to_Conference__
on_"Environmental_Influences_on_Children:_Brain,_Development_and_Behavior,__
New_York
Academy_of_Medicine,_Mt._Sinai_Hospital,_New_York,_May_24-25,__
Preliminary_report_on_data_from_analysis_of_national_sample_of_over_4,000__
children_in_NHANES_III,_showing_that_while_water_fluoridation_is__
associated_with_a_significant_increase_in_children's_blood_lead_(with__
especially_strong_effects_among_minority_children),_data_on_tooth_decay__

from_the
same_survey_show_limited_benefits_that_are_no_longer_evident__
among_those_aged_15-17._
Coplan,_M.J.,_Masters,_R.D.,_and_Hone,_B.____(1999b)___"Association_of__
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presentation_to_17th_International_Nerotoxicology_Conference,_Little_Rock,__
AR,_October_17_
Preliminary_report_on_data_from_analysis_of_sample_of_blood_lead_testing__
of_over_150,000_children_in_New_York_State_communities_of_15,000_to_75,000__
population.___Once_again,_average_blood_lead_levels_were_significantly__
higher
(p_<_.0001)_in_communities_using_silicofluorides_in_water_treatment__
than_in_those_with_unfluoridated_water.__The_effect_was_found__
independently_in_every_age_group_for_three_ethnic_subsamples_
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Scientific_Inquiry_Prevail_Over_Entrenched_Institutional_Self-Interest?"__
presentation_at_the_annual_meeting_of_the_Association_for_Politics_and_the__
Life_Sciences,_Montreal,_Que._(August_19-23,_2002)._
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decisions_challenged_by_new_data_on_silicofluoride_chemistry_and_its__
effects_on_human_biology_and_behavior.._
Roger_D.
Masters_(2002)._"Toxins_and_Behavior:_Implications_of__
'Toxicogenomics'_for_Public_Policy,"_Paper_presented_to_XXth_International__
Neurotoxicology_Conference,_Little_Rock,_ARK,_Nov._19,_2002._
---_You_wrote:_
Dear_Professor_Masters:_
I_am_sorry
to_learn_that_your_wife_is_not_well.__I_hope_that_she_returns_
to_good_health_and_back_home_soon._
Most_of_us
have_had_our_share_of_experiences_with_illnesses,_either_
personally_or_via_those_we_love._
Regardless_of_any_professional_differences_we_might_have,_I_wish_people_
happiness_and_health_in_their_personal_lives._
Edward
Todd_Urbansky,_Ph.D._
Research_Chemist_
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States_Environmental_Protection_Agency_
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of_Research_and_Development_
National_Risk_Management_Research_Laboratory_
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quote_---_