SCIENCE NEWS
A SCIENCE SERVICE PUBLICATION
VOLUME 121, MARCH 20, 1982, NO. 12

THIS WEEK

RESEARCH NOTES

ARTICLES

DEPARTMENTS

COVER: An important collection of biological illustrations, done in the late 1700s by Spanish explorers in New Spain, was lost for more than 150 years. It recently turned up in a private library in Barcelona and has been acquired by the Hunt Institute at Carnegie-Mellon University. See p. 202. (Illustration: Hunt Institute)

Editorial and Business Offices
1719 N Street, N.W.
Washington, D.C. 20036

Subscription Department
231 West Center Street
Marion, Ohio 43302

Subscription rate: 1 yr., $27.50; 2 yrs., $47.50; 3 yrs., $67.00. (Add $3 a year for Canada and Mexico, $4 for all other countries.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code. For new subscriptions only Call **(1) 800-247-2160.** Printed in U.S.A. Second class postage paid at Washington, D.C. Title registered as trademark U.S. and Canadian Patent Offices. Published every Saturday by SCIENCE SERVICE, Inc. 1719 N St., N.W., Washington, D.C. 20036. (202-785-2255)
ISSN 0036-8423

LETTERS

Clarifying ClO data

Your report from the San Francisco meeting of the American Geophysical Union contains an article ("Chlorine monoxide: Innocent until...", [SN: 12/19 & 26/81, p. 392]), which might mislead readers concerning current research on depletion of the stratospheric ozone layer by chlorofluorocarbons (spray-can propellants, etc.). Over the past several years, incontrovertible data shows the presence of ClO in the stratosphere with a peak mixing ratio averaging about 0.6 ± .2 parts per billion. This data comes from several independent measurements using two totally different techniques. ClO has been detected, and its concentration determined using remote mm-wave measurements of two different lines in its rotational spectrum, and by direct *in-situ* measurements from a sensor dropped by parachute through the stratosphere.

ClO is formed in a direct reaction between atomic chlorine and ozone, and has a short lifetime in the stratosphere. It is thus the best indicator found to date for monitoring the destruction of ozone by atomic chlorine, as it is believed that this is the primary pathway for producing stratospheric ClO. The independent experimental data referred to above has served to stimulate reassessment of earlier theoretical calculations of ozone destruction by Cl. These had predicted a somewhat greater concentration of ClO (≥ 1 part per billion at peak mixing ratio). Theory and experiments are now in better agreement, and work is continuing on this important societal/industrial question. The lowered presence of ClO may be taken as an indication of less rapid catalytic destruction of ozone by chlorine than was predicted to be occurring when original warnings were sounded. It would be unwise, however, to draw conclusions based on the NASA group's findings as reported in your article.

I believe the NASA group failed to detect *any* ClO in their experiment, and from this concluded an upper limit (rather than "measured concentration of ...") ClO which is in conflict with a number of existing measurements including a set of mm-wave remote sensing results obtained during the same time-span and from the same geographical location as their own. It is not unusual to fail to detect something early in a new series of experiments — it *is* unusual for it to become a newsworthy event.

Robert deZafra
Stony Brook, N.Y.

More names that work

Wray Herbert's article "Names that Work" (SN: 2/6/82, p. 89) brought a *wray* of sunshine into my dismal Monday.

Les Guglielmi
Vineland, N.J.

As a kid growing up in Hamilton, Ontario in the 1930s it always impressed me that the city pathologist's name was Dr. Deadman. This was in fact reported in a Robert Ripley Believe-it-or-Not column of the day. As Dr. Lipsitt might surmise, the name wasn't a requirement for the job, but it was certainly fitting.

Gilbert C. Foster
Kwajalein, Marshall Islands

Your article on "Names that Work" was interesting, but I'm surprised it didn't mention the noted insect physiologist, Dr. Vincent Wigglesworth!

Roger Sorensen
Wyoming, Mich.

"Names That Work" started me thinking about the names that don't work, or are otherwise inappropriate. Think of all the trouble and bad press the administration could have avoided if it had made James Watt Secretary of Energy, rather than Secretary of the Interior. Not only the environmentalists, but also Prof. Lipsitt and Wray Herbert would have been much happier.

Roger Dorr
Mountain View, Calif.

Reading Wray Herbert's "Names that Work" persuaded me to send these recently encountered observations by Carl Jung, in a footnote to his *Synchronicity: An Acausal Connecting Principle.*

"We find ourselves in something of a quandary when it comes to making up our minds about the phenomenon which Stekel calls the 'compulsion of the name.'...For instance, Herr Gross (Mr. Grand) suffers from delusions of grandeur, Herr Kleiner (Mr. Small) has an inferiority complex...Herr Feist (Mr. Stout) is the Food Minister, Herr Rosstaucher (Mr. Horsetrader) is a lawyer...Herr Freud (joy) champions the pleasure-principle, Herr Adler (eagle) the will-to-power, Herr Jung (young) the idea of rebirth, and so on. Are these the whimsicalities of chance, or the suggestive effects of the name, as Stekel seems to suggest, or are they 'meaningful coincidences?'" (p. 11, Bollingen Paperback Edition, 1973). Jung's essay expands upon the third alternative, and would answer Lipsitt's concession that "it's not always easy to understand the cause-and-effect relationship" with the possibility that the relationship is *not* cause-and-effect, but rather an example of synchronicity, a relationship of meaning.

And may I add my personal favorite? My husband's old family dentist was none other than Dr. Toothman!

Cynthia P. Turich
Pittsburgh, Pa.

Symmetry violation significance

Your report on the observation of time-reversal symmetry violation (SN: 1/2/82, p. 4) contains two points that must be clarified. First, time-reversal has been known to be violated for 17 years (see Christenson, et al., Physical Review Letters 13, 138 [1964]). This original observation recently won a Nobel prize for two of the physicists involved. The significance of the recent observation by Slobodrian et al. is that it appears to be a symmetry violation by the *strong* nuclear force (that which holds the nucleus together) rather than by the *weak* nuclear force (responsible for β-decay). Second, and more important, CPT symmetry does *not* imply either the electrical neutrality of the universe or the equality of the amounts of matter and antimatter in the universe. Both properties depend on the conditions existing at the time of the big bang, as well as on other physical laws. In fact, it is widely believed that the universe is not matter-antimatter symmetric, with CPT still being a good symmetry. This is one of the principal features of theories employing "grand unification" schemes.

Jon J. Thaler
Urbana, Ill.