

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 132, No. 7, August 15, 1987

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Subscription Department
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00.
(Foreign postage \$6.00 additional per year.) 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., and additional
mailing offices. 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

Deceptive drop?

B. Bower recently reported on the studies by Chesney et al, suggesting that repeated monitoring of blood pressure may be sufficient to reverse mild hypertension ("Getting the drop on blood pressure," SN: 6/27/87, p.405). While such expectations may not be unwarranted and certainly the interest and potential benefits of nonpharmacologic treatments cannot be overstated, there may be alternative explanations of these results that do not relate to the "sense of control over one's body."

First is the well-known phenomenon of regression toward the mean. This statistical phenomenon has long been able to "control"

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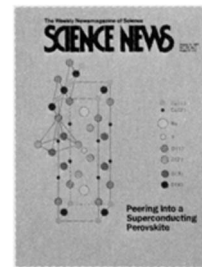
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Cover: As revealed through neutron scattering, the basic structure of the new high-temperature $\text{YBa}_2\text{Cu}_3\text{O}_7$ superconductor can be visualized as a "perovskite" structure. When the oxygen content is reduced to about 6.5 atoms, the material loses its superconductivity. As oxygen is reduced, all these vacancies occur in the O(4) chain at upper left, a position some researchers believe might control superconductivity. As researchers come closer to understanding what makes superconductivity work, some of them begin seriously questioning what its first and feasible applications might be. (Illustration: National Bureau of Standards, Reactor Radiation Division)



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blood pressure and is directly related to the random variability of measurements of blood pressure. In sampling a factor in which an individual can vary, some individuals are at that point in time at the highest extremes of their own distribution. In any subsequent measurement they would be lower. Those who would normally be called hypertensive but were at that moment at their lowest extreme (below the cutpoint) are excluded initially. One sees the drop of those at their highest levels but not the rise in those at just below the cutpoint; therefore the mean blood pressure of "hypertensives" will appear to drop, and some will drop below the cutpoint and appear to be cured.

A second and equally potent therapy is known as the cure of the false positives. In virtually any protocol for the selection of

mild hypertensives, there will be some individuals who are not truly elevated and who on subsequent examinations do not exhibit elevations, further decreasing the mean blood pressures in both groups.

We do not offer these comments to thwart the efforts of nonpharmacologic approaches, but merely remind all of us of the need to recognize alternative explanations.

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