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The calculated surfaces in momentum space (“Fermi surfaces”) for the charge carriers in the high-temperature superconductor YBa$_2$Cu$_3$O$_y$. Charge carriers can be electron-like or hole-like; blue indicates low-velocity, high-mass carriers, and red indicates high-velocity, low-mass carriers. This Fermi surface, first calculated theoretically, has recently been confirmed by several experimental spectroscopies. See page 46. [Image by R. E. Cohen with AVS 3.0 software; image printed on a Kodak XL7700 at the Naval Research Laboratory Connection Machine Facility]
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Achievable New Year’s Resolutions

This year I am trying to take a giant step toward a new social contract, the achievable New Year’s resolution. In analyzing this new personal relationship, I realize that some of the principles are applicable to bigger social units, such as city, state, and federal governments.

In the past I have taken the more or less conventional approach to such resolutions, realizing that the New Year was an important time to face deficiencies and respond to the urgent need for reform, both personally and professionally. This year, I make the usual resolutions: (I) I hereby solemnly resolve that I shall make shocking inroads into my waistline by giving up desserts, eating between meals, a cocktail before dinner, and maple syrup. (II) I further resolve that since the meek shall inherit the earth, they should be allowed to finish a sentence, even though I know what they are going to say, they are taking an imminently true time to say it, and I already know the answer. (III) Furthermore, I resolve that some of my pet beliefs, such as that science needs more funding, that the space station is a colossal waste of money, and that the benefits of science far outweigh the deleterious side effects, will no longer be the subject of imminently titrable. Of course, it is not my fault that I return to these subjects often; rather it is the fault of the politicians, the bureaucrats, and others who do not instantly see the wisdom of my words.

I have previously made such resolutions in deep sincerity with an exalted feeling of self-sacrifice and moral purity, only to have the resolutions broken long before the year is out. That disparity between the ease of stating a high moral ideal and the difficulty of preventing its slow deterioration is the fundamental problem of resolutions. That is why I have decided to reevaluate resolutions on the basis of achievability. The achievability principle is not unlike the uncertainty principle, involving a multiplication of probabilities—that is, the higher the moral standard is set, the quicker the decay to the previous standard of behavior. Therefore, one has a choice between diminishing the moral goal or diminishing the period over which the moral behavior is to be sustained.

I have personally chosen in the current year to maintain the high level of my goals, but have picked 1 January to 15 February as the period of time over which I am likely to maintain this incredible level of achievement. It is my feeling that I will not be likely to starve to death and become morose in the period of one-and-a-half months following Resolution I. Moreover, by eschewing my favorite subjects of discourse (Resolution III), I will probably have very little to say, but on the other hand Resolution II will mean that I will have very little opportunity to say it. Thus considering the weakness of my moral fiber and the lofty idealism of my goals, 15 February sounds like a reasonable date.

In struggling through this catherism, it strikes me that a similar approach might be worthwhile for governments and citizens. There is a tendency to use the rhetoric of absolute purity in naming civic goals—we must house all the homeless, provide health care to everyone, prevent war, and excel in international trade. The likelihood of implementing solutions to civic problems—raising taxes, working harder, lowering our standard of living—is usually inversely proportional to the loftiness of the goal. Advocates of purity argue that goals must be extremely high in order to make any progress because compromise is inevitable. The danger of such an approach is that an impossible goal induces despair and the feeling that we are getting nowhere. Possibly setting achievable resolutions, ones for which we expect a high level of achievement for a short time (viewed as an educational experiment) or less lofty levels achievable for a longer time, may actually help societies as well as individuals. For example, a health care plan that provides everyone with the same level of coverage is probably not achievable, but one that narrows the currently unacceptable range of coverage between our poor and wealthy citizens is achievable.

It is true that high resolutions of government require cooperation from the other sectors of society and the other nations with which they interact, as they are not completely masters of their fate, no matter what the poet said. I am entering 1992 with the high hope that I can be a better person, and I expect my government to follow suit. I believe we can make it, at least until someone offers me maple syrup or politicians face a primary election.

—DANIEL E. KOUSHLAND, JR.
now have a blood test for AIDS which we hope can be widely available in six months.” Crewdson then says I suggested that a permanently infected cell line was necessary for the development of the blood test. This is a semantic sleight of hand: I wrote about the need for infecting a permanent T cell line—which is distinct from a permanently infected T cell line—to produce a blood test on a commercial scale. And the former scientific director at Genetic Systems, Robert Nowinski, confirmed to me that until the French successfully infected the permanent CEM line, which occurred after Gallo’s lab had infected its permanent line, they did not have a commercially viable blood test.

With respect to the Heckler press conference, Crewdson recounts facts he has already reported, oddly assumes that I was chiding him for being unfair to Gallo, and then shares a lesson he learned from Scotland Yard. What he does not do is tackle my criticism. We know the dog didn’t bark and, yes, that is the real story. We know that Heckler’s pronouncements were nationalistic boosterism. We know that Gallo did not generously share credit when standing before the bank of microphones. But what the OSI document I referred to revealed was that the real story is less clearcut than Crewdson would have you believe. Heckler’s press statement, which was passed out to journalists that day, credited the French and strongly linked LAV to HTLV-III. The OSI document went as far as to suggest that it was “unlikely” Heckler would have emphasized the similarity between the viruses “without input from Dr. Gallo.” What’s more, as Crewdson knows, both the French and American labs believed there were important differences between their two viruses at that point. Because Crewdson’s arguments ultimately raise questions of perjury, fraud, and coverup, these facts deserve an airing—inconvenient as they may be.

Finally, Crewdson responds to my spotlighting his failure to note the OSI’s conclusions regarding Montagnier’s responsibility for the abstract. I am not challenging the facts Crewdson presents here on this matter. But I am pointing out that by not reporting the OSI’s finding that “the content of the paper ultimately rests with [Montagnier],” Crewdson again is omitting an inconvenient fact, one that I believe readers would find relevant. The OSI did, writing in its draft report, “The OSI believed that if Dr. Montagnier had received the galleys, and had acceded to Dr. Gallo’s revisions, then Dr. Gallo’s actions could not be considered possible scientific misconduct.” Instead of reporting this in his 15 September 1991 article on the OSI report in the Chicago Tribune, Crewdson stressed that the OSI “concludes that Gallo’s summary, written at Montagnier’s request, misrepresented the data in the article...”—Jon Cohen

Erratum: In reference 5 of the report “Defining protective responses to pathogens: Cytokine profiles in leprosy lesions” by M. Yamamura et al. (11 Oct., p. 277), some of the primer sequences were given in the 5’→3’ rather than the 5’→3’ direction. The correct sequences should have been as follows. IL-3, ATGAGCGGCCTGGCCGTCCCT and AGAATCGGAGGCCGCTCA-AAGCTGTCTGTTG. IL-5, ATGAGATGCTCCTGCG- CATTGT and TCACTTTCTATATACCTGCATTGTTACATAC. IL-7, ATGGCCATGTTTATTTAGGG and AGCTATTTGTTGCTGCACTATCAAATTTT- TATTCCAAG; and IL-8, ATGACCTGCAAGCTGTCCGTTG and TTATAAATCTCAGCCCTTCTTCTAAAACCTGTC.

Erratum: In the caption of the photograph accompanying the News & Comment article “Moths take the field against biopiracy” by Ann Gibbons (1 Nov., p. 646), a cabbage field was incorrectly identified as “a watercress field.”

Erratum: In the report “Functional contribution of neuronal AChR subunits revealed by antisense oligonucleotides” by M. Listnerud et al. (6 Dec., p. 1518), the name of co-author Pirosha Devy was misspelled.

Erratum: The note at the end of page 1287 in the News & Comment article “Advisory committee urges changes at OSI” by Ann Gibbons (29 Nov., p. 1287) contained an error. The conference “Misconduct in Science” that was held on 15 and 16 November 1991 was cosponsored by the AAAS and the Department of Health and Human Service’s Office of Scientific Integrity Review (OSIR), not the National Institutes of Health Office of Scientific Integrity (OSI).
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General articles should include a note giving the authors' names, titles, and addresses; an abstract (50 to 100 words); an introduction that outlines the general reader the main point of the article; and brief subheadings to indicate the main ideas. The reference list should not be exhaustive; a maximum of 50 references is suggested.

**Research Articles** (up to 4000 words or four printed pages) are expected to contain new data representing a major breakthrough in a field. The article should include an author note, abstract, introduction, and sections with brief subheadings. A maximum of 40 references is suggested.

**Figures and tables together with their legends should occupy about one printed page for General Articles and Research Articles.**

**Reports** (up to 2500 words or three printed pages) are expected to contain important research results. Addresses for all authors should be listed on the title page and the corresponding author should be indicated by an asterisk. Reports should include an abstract (no more than 100 words) and an introductory paragraph. A maximum of 30 references is suggested. **Figures and tables together with their legends should occupy no more than one of the pages.**

**Policy Forum** provides a platform for scientists to present in-depth discussions of policy issues relevant to science. Whenever possible, Policy Forums representing opposing sides are presented in the same issue.

**Perspectives** analyze recent advances in fast-breaking fields and express opinions as to the impact the developments will have on future research. Perspectives should be ei-
## Checklist for Submission

Manuscripts should be addressed to the Editor, *Science*, 1333 H Street, NW, Washington, DC 20005. Submit three copies together with a letter giving

- the names and telephone numbers of the authors.
- the title of the paper and a statement of its main point.
- the names, addresses, telephone numbers, and fields of interest of four to six persons outside your institution who are qualified to referee the paper.
- the names of colleagues who have reviewed the paper.
- the total number of words (including text, references, and figure and table legends) in the manuscript.
- a statement that the material has not been published and is not under consideration for publication elsewhere.

Also include with your manuscript:

- any paper of yours that is in press or under consideration elsewhere and includes information that would be helpful in evaluating the work submitted to *Science*.
- written permission from any author whose work is cited as a personal communication, unpublished work, or work in press but is not an author of your manuscript.
- for manuscripts based on crystallographic data, two copies of the coordinates.

By submitting a manuscript, an author accepts the responsibility that all those listed as authors of a work have agreed to be so listed, have seen and approved the manuscript, and are responsible for its content.

Priority disputes may undergo extensive review and are published only when action is recommended.

**Book and Software Review** selections are made by the editors. Instructions and length specifications accompany items to be reviewed when they are sent to the reviewers, who are chosen by the editors.

**Manuscript Review and Selection**

Before being reviewed in depth, most papers are rated for their interest and overall suitability by a member of the Board of Reviewing Editors. Papers submitted in disciplines for which there is no appropriate member of the Board of Reviewing Editors may be screened by editorial staff in consultation with outside experts. Papers that are not highly rated are mailed back to the authors within about 2 weeks; the title page and abstract from one copy are retained for our files.

Approximately 35% of submitted papers are reviewed in depth by two or more outside referees. Reviewers are telephoned prior to being sent a paper and are expected to decline to review if they are not qualified or there is a possible conflict of interest. Reviewers are expected to return their comments within 2 weeks and are instructed that the manuscript is a privileged document that is not to be disseminated or exploited. It is the policy of *Science* that reviewers are kept anonymous.

When the review process is complete, the manuscript and reviewers' comments are discussed by the editors at a weekly meeting. Manuscripts are evaluated in terms of their technical merit as well as their merit in relation to other papers under consideration.

In selecting papers for publication, the editors give preference to those of novelty and general significance that are well written, well organized, and intelligible to scientists in different disciplines. An attempt is made to balance the subject matter in all sections of *Science*. Membership in the AAAS is not a factor in selection.

Authors are notified of acceptance, rejection, or need for revision, usually within 8 to 10 weeks. Accepted papers are edited to improve accuracy and clarity and to bring them within the specified length limits.

Papers cannot be resubmitted over a disagreement on interest level or relative merit. If the author can demonstrate that a paper was rejected on the basis of serious reviewer error, resubmission will be considered.

**Conditions of Acceptance**

When a paper is accepted for publication in *Science*, it is understood that

- any materials and methods necessary to verify the conclusions of the experiments reported will be made available to other investigators under appropriate conditions.
- sequence and crystallographic data will be offered for deposit to the appropriate data bank and the identifier code will be sent to *Science* for inclusion in the published manuscript (coordinates should be released no later than 1 year after publication).
- the author or authors agree to transfer copyright of the paper to *Science*; and the paper will remain a privileged document and will not be released to the press or the public before publication.
- if there is a need in exceptional cases to publicize data in advance of publication, the AAAS Office of Communications (202-326-6440) must be consulted.

Authors may provide a copy of their manuscript on disc upon acceptance. Specific instructions will be provided when the manuscript is returned for revision.

**Printing and Publication**

**Proofs and reprints.** One set of proofs and an order blank for reprints are sent to the authors.

**Scheduling.** Papers are scheduled for publication after *Science* has received corrected proofs. Papers with tables or figures that present problems in layout, or with cover pictures, or that exceed the length limits may be subject to delay.

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*Information for Contributors*
Science Style Sheet

Acknowledgments, including funding information, should be gathered into a brief statement at the end of the references and notes and will be edited to conform to Science style.

Equations and formulas should be typed with quadruple-spacing if they are to be set off from the text. Define all symbols and number all equations.

Figures. Most figures will be printed at a width of 5.9 cm (2.3 inches or 1 column) or 12.2 cm (4.8 inches or 2 columns). Some illustrations (for example, bar graphs, simple line graphs, and gels) may be reduced to a smaller width. Symbols and lettering should be large enough to be legible after reduction. Composite figures should be labeled A, B, C, .... If mounting is necessary, use card-board.

Legends should be typed double-spaced in numerical order on a separate page. No single legend should be longer than one page. Nomenclature, abbreviations, symbols, and units used in a figure should match those used in the text. The figure title should be given as the first line of the legend.

Line drawings should be labeled on the ordinate and abscissa with the parameter or variable being measured, the units of measure, and the scale. Scales with large or small numbers should be presented as powers of 10. Definitions of symbols should usually appear in the figure legend and not in the figure. Simple symbols (circles, squares, triangles, and diamonds, solid or open) will best survive reduction.

Recommended symbols at the size they should appear after reduction: 

- ○ ○ □ ▲ △

Avoid the use of light lines, shading, and stippling. Use heavy lines or boxes for emphasizing or marking off areas of the figure, and use black, white, hatched, and cross-hatched designs in place of stippling in bar graphs and ball-and-stick molecular models. Authors using computer graphics should choose screens between 20 and 60%.

Halftones, such as electron micrographs, should be submitted as high-quality prints or orginals (do not send irreplaceable artwork). If possible, use scale bars in place of, or in addition to, magnifications. In gels, the lanes should be numbered and identified by number in the figure legend.

For color art please provide a positive slide, if possible, and a print or laser proof. Indicate positioning, lettering, and cropping limits on the print. For composite figures, send the original composite board rather than a print if the quality of the original is much better than that of the print. Do not send irreplaceable artwork.

Lettering in Helvetica font is preferable. Use boldface type for axis labels and for the labels A, B, C, .... in composite figures; use italic type only as it would be used in the text (for example, for variables and genes). The first letter of each entry should be uppercase; otherwise, use uppercase letters as they would be used in the text (for example, for acronyms). Avoid wide variation in type size within a single figure. In the printed version of the figure, letters should be about 7 point (2 mm high).

Sequences may be reduced considerably so make sure the typeface in the original is clear. There should be about 130 characters (including spaces) per line for a sequence occupying the full width of the printed page and about 84 characters per line for a sequence occupying two columns.

References and notes are numbered in the order in which they are cited, first through the text and then through the table and figure legends. List a reference only one time. References that are always cited together may be grouped under a single number. Reference to unpublished data should be given a number in the text and placed, in correct sequence, in the references and notes. Use conventional abbreviations for well-known journals; provide complete titles for other journals. Do not use op. cit. See “Science Reference Style” (at right) for examples.

Symbols, abbreviations, and acronyms should be defined the first time they are used.

Tables should supplement, not duplicate, the text. They should be numbered in the order of their citation in the text. Each table should be generated on a separate page with its legend double-spaced above the table. The first sentence of the legend should be a brief descriptive title. Three horizontal lines are used in tables: at the top and bottom of the table and between the column headings and the table body. Vertical lines are not used between the columns.

Every vertical column should have a heading consisting of a title with the unit of measure in parentheses. Units should not change within a column. Centered headings of the body of the table can be used to break the entries into groups. (See the section on lettering for use of italic type and uppercase letters.)

Footnotes should contain information relevant to specific entries or parts of the table. The sequence of symbols for footnotes is * † ‡ § ‡‖ ‡′ ‡‖ ‡· ‡· ‡· ‡· ... Units of measure are given in metric. If measurements were made in English units, give metric equivalents.
47. The most popular index of cooperativity is the Hill coefficient, n. For a binding curve Y (fraction of occupied sites) versus x (unbound ligand concentration), the Hill coefficient 
\[ n = \frac{\log(Y/(1 - Y))}{\log(c)} \] 
provides a measure of cooperativity in terms of statistical 
variance under the constraint of 
Transient 
D. Dolman and S. K. K. B. M. J. between 
50. Transient kinetics of oxygenated hemoglobins have almost always been analyzed 
under the constraint of a two-state MWC mechanism; compare with J. Hofrichter et al., Biochemistry 30, 6583 (1991).
72. G. Rose, B. Zimm, L. Ten Eyck, and W. Nichols have analyzed subunit motions 
using difference plots that map changes in intermediate w-carbon distances between 
deoxygenated and oxygenated hemoglobins.
76. We thank T. Yonetani and B. Hoffman for metal-substituted hemoglobin samples 
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R37-GM24486 and PO1-HL40453 and by NSF grant DMB 9107244.
Books Received


Biological Control by Natural Enemies. Paul Debach and David Rosen. 2nd ed. Cambridge University Press, New York, 1991, xvi, 440 pp., illus. $44.45; paper, $17.50.


Infant Development. Perspectives from German-Speaking Countries. Michael E. Lamb and Heidi Kolder, Eds. Erlbaum, Hillsdale, NJ, x, 397 pp., illus. $79.95.


