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<th>Model UC-5:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height, 10 1/2”</td>
<td>Height, 18”</td>
<td>Height, 20-7/16”</td>
</tr>
<tr>
<td>Diameter, 6 1/4”</td>
<td>Diameter, 7 1/2”</td>
<td>Diameter, 6 1/4”</td>
</tr>
<tr>
<td>Neck Opening, 4-11/32”</td>
<td>Neck Opening, 1 1/4”</td>
<td>Neck Opening, 4-11/32”</td>
</tr>
<tr>
<td>Weight (empty), 2 1/2 lbs.</td>
<td>Weight (empty), 4 lbs.</td>
<td>Weight (empty), 4 lbs.</td>
</tr>
<tr>
<td>Weight (full), 6 lbs.</td>
<td>Weight (full), 11 lbs.</td>
<td>Weight (full), 11 lbs.</td>
</tr>
<tr>
<td>Max. LN2 capacity, 2 litres</td>
<td>Max. LN2 capacity, 4 litres</td>
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<td>$60/bottle, 1-4 bottles</td>
<td>$14.00/bottle, 1-5 bottles</td>
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<td>$56/bottle, 5-9 bottles</td>
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Joseph Weizenbaum states that linguists have observed that in all human languages declarative sentences can often be transformed into questions by a simple change in word order. This principle does not hold for Chinese, a language spoken by about 800 million people, or for Tamil, a language of southern India, which is spoken by more than 30 million people and which is thought to be the world's oldest living language.

Questions are formed in Chinese by adding the word ma to the end of a declarative sentence; by using a question word meaning "who," "where," "what," and so forth; by offering a choice (John is busy, not busy?); or in the spoken language by intonation.

In Tamil, as well, questions are never formed by the mere rearranging of declarative sentences. The verb is changed into an interrogative form that is essential for asking questions. Further, this interrogative form of the verb cannot be used in declarative sentences.

Mary Ellen Karunakaran
Arthur Manoharan
Sylvia Chen
Boston University School of Medicine.
Boston, Massachusetts 02118

Karunakaran, Manoharan, and Chen have discovered a blemish in my paper. The sentence in question should have read "... in many human languages declarative sentences can often be transformed into questions by a permutation of two of their words." All authors should always guard against sentences containing words such as "all" and "always." However, my point is not lost. That point (briefly restated) is that no theory serving merely local criteria of parsimony can be sufficient to account for the structure of human languages. The problem is deeper than that and therefore engenders awe and humility in serious investigators.

Although Coles opens by charging me with "a number of logical and factual errors," he actually alleges only one of each. (Oh well, I suppose I counts as a number.) My presumed factual error lies in the assertion that "the direct societal effects of any pervasive new technology are as nothing
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cules). This figure is the same as the current H$_2$O to CO$_2$ ratio that Rubey (2) estimates for the earth. However, McElroy speculates that as much as half of the martian CO$_2$ has already escaped to space. If one assumes that the H$_2$O to CO$_2$ ratio is indeed the same for Mars as it is for the earth, this would require an amount of water still on Mars equal to the 10$^{26}$ molecules per square centimeter that McElroy has calculated to have escaped over geologic history. This would be enough water to cover the entire planet to a depth of approximately 3 m.

On the 10 percent of the planet's surface that was photographed during the near encounters of Mariners 6 and 7, Sharp et al. (3) mapped $1.5 \times 10^6$ km$^2$ of chaotic terrain. If this proportion holds true for the entire planet, one would expect to find $1.5 \times 10^7$ km$^2$ of chaotic terrain on the martian surface. If all the water estimated to be present had once occupied the chaotic terrains, they could have been filled to a depth of only 30 m. However, substantial evidence exists that the chaotic terrains occupy elevations that are actually several kilometers below their surroundings. Radar scans by Pettengill et al. (4) and by Downs et al. (5) across the Pyrrhae Regio region showed that one portion of the chaotic terrain is bordered by scarps 4.5 km high; and Herr et al. (6) derived several topographic profiles from Mariners 6 and 7 infrared spectrometer data which showed an excellent correlation between the areas that are one to several kilometers below their surroundings and the areas Sharp mapped as chaotic terrain. If permafrost was once to have occupied this large volume of chaotic terrain, the ratio of H$_2$O to CO$_2$ that degassed from Mars would need to be approximately 100 times as great as the ratio for the earth. If this were not so, the chaotic terrains could not have been produced by the withdrawal of H$_2$O permafrost.

ALEXANDER WORONOW
Department of Geological Sciences, 
Hoffman Laboratory, Harvard University, Cambridge, Massachusetts

References

3 February 1972

NEWS AND COMMENT

(Continued from page 598)

RECENT DEATHS

Rebecca Baker, 58; professor of education, Southern Illinois University; 6 September.
Henry J. Bakst, 66; former dean, School of Medicine, Boston University; 28 August.
Roger H. Bray, 73; professor emeritus of soil fertility, University of Illinois; 10 September.
Sam M. Beiser, 49; acting chairman, microbiology department, College of Physicians and Surgeons, Columbia University; 7 September.
Thomas H. Chilton, 73; former visiting professor of chemistry, Georgia Institute of Technology; 14 September.
Edward D. Churchill, 76; former professor of surgery, Harvard University; 28 August.
Howard J. Curtis, 65; former chairman, biology department, Brookhaven National Laboratory; 13 September.
Jess H. Davis, 66; president emeritus, Stevens Institute of Technology; 17 September.
Albert B. F. Duncan, 69; visiting professor, astronomy department, University of Virginia; 29 August.
James W. Egan, 72; former vice president, Georgetown University; 17 August.
Frank A. Forward, 70; former professor of metallurgy, University of British Columbia; 6 August.
Arthur I. Gates, 81; professor emeritus of education, Teachers College, Columbia University; 24 September.
Charles O. Glisson, 74; professor emeritus of engineering, Tennessee Technological University; 15 August.
Roy F. Graesser, 79; professor emeritus of mathematics, University of Arizona; 23 July.
James H. Griffin, 80; former president, Villanova University; 28 July.
Frederick J. Holl, 74; former professor of biology, State University of New York College, Buffalo; 17 August.
May H. James, 83; former professor of social sciences, New Haven State Teachers College, 3 September.
Trois E. Johnson, 59; professor of public health, University of North Carolina; 21 July.
Carol Karp, 46; professor of mathematics, University of Maryland; 19 August.

George V. Kendall, 91; dean emeritus, Wabash College; 9 September.
Daniel S. Lehman, 53; professor of psychology, Rutgers Newark College of Arts and Sciences; 29 August.
Mary S. MacDougall, 89; professor emeritus of zoology, Agnes Scott College; 19 June.
Edward G. McGarva, 70; dean emeritus, School of Public Health, University of North Carolina; 29 August.
Victor E. Monnett, 82; professor emeritus of geology, University of Oklahoma; 18 September.
William A. Mosher, 59; professor of chemistry, University of Delaware; 23 July.
Leonard Paris, 56; associate professor of pathology, State University of New York, Stony Brook; 4 September.
Thomas G. Perry, 53; professor of geology, Indiana University; 21 August.
Isidor S. Radvin, 77; former vice president for medical affairs, University of Pennsylvania; 27 August.
Robert A. Reicher, 45; chairman, sociology department, Barat College; 14 July.
Hugo R. Rony, 84; former professor of clinical medicine, University of Chicago; 8 September.
Frederick W. Sohon, 78; professor emeritus of seismology and mathematics, Georgetown University; 25 July.
George P. Springer, 53; dean, Graduate School, University of New Mexico; 29 July.
Jack Szafran, 51; professor of psychology, University of Southern California; 18 April.
Max Theller, 73; professor emeritus of epidemiology and microbiology, Yale University; 11 August.
Price E. Thomas, 50; chairman, physiology department, Kirksville College of Osteopathic Medicine; 2 September.
Stephen P. Timoshenko, 93; professor emeritus of applied mechanics, Stanford University; 29 May.
Arthur V. Tobolsky, 53; professor of chemistry, Princeton University; 7 September.
Herbert A. Toops, 76; professor emeritus of psychology, Ohio State University; 12 August.
Harry L. Williams, 52; professor of pharmacology, Emory University; 22 July.
Claude V. Winder, 63; physiologist and assistant director of pharmacological research, Parke, Davis & Company; 10 August.
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Electrochemistry

James D. F. McIntyre, chairman; Stanley Bruckenstein, vice chairman.


10 January. Surface chemistry and physics of metals (B. F. Conway, discussion leader): Robert Gomer, "Energy distributions in field emission"; Michael J. Dignam, "Infrared spectroscopy of adsorbed species"; Gabor Somorjai, "LEED and Auger electron spectroscopy studies of reactions on platinum surfaces"; Arthur T. Hubbard, "Study of oriented single crystal electrodes by thin-layer electrochemistry and LEED."


Polymers

John I. Lauritzen, Jr., chairman; Roger S. Porter, vice chairman.
15 January. (J. F. Johnson, session...
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Biochemistry of Aging

Denham Harman, chairman.


T. Makinodan, "Cellular aspects of age-associated impairment of the immune system."


26 January. (William F. Forbes, chairman); Trace elements: Klaus Schwarz, "Trace elements"; D. J. Eastough and R. M. Izatt, "Trace elements: effect of age on function and tissue concentration." (Ralph Goldman, chairman); Practical considerations: Le Roy E. Duncan, "How can we best apply current aging knowledge to the problem of increasing the healthy life span of man?"

Forthcoming Events

December


11–15. American Soc. of Agricultural Engineers, Chicago, Ill. (J. L. Butt, ASAE, P.O. Box 229, St. Joseph, Mo. 49085)


14–15. Derivatization in Chromatography, Gainesville, Fla. (R. F. Severson, Florida Chromatography Discussion Group, Route 4, Box 25-E, Lake City 32053)

14–16. Symposium on Computer and Information Science, 4th intern., Miami Beach, Fla. (COINS-72, Center for Informatics Research, 339 Larsen Hall, Univ. of Florida, Gainesville 32601)


15–16. Cerebral Function Symp., 4th annual, San Juan, Puerto Rico. (L. Smith, Cortical Function Lab., Porter Memorial Hospital, 2525 S. Downing St., Denver, Colo. 80210)


26–30. Western Soc. of Naturalists, Arcata, Calif. (D. H. Montgomery, Dept. of Biological Sciences, California Polytechnic State College, San Luis Obispo 93401)


January


14–19. Protein Phosphorylation in Control Mechanisms, Miami, Fla. (W. J. Whelan, Dept. of Biochemistry, School of Medicine, Univ. of Miami, P.O. Box 875, Biscayne Annex, Miami 33152)
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8-9. Association for Hospital Medical Education, Chicago, Ill. (T. G. Kummer, AHME, 1911 Jefferson Davis Hwy., Arlington, Va. 22202)
9-16. American Soc. of Clinical Pathologists, Honolulu, Hawaii. (G. F. Stevenson, ASCP, 2100 W. Harrison St., Chicago, Ill. 60612)
16-17. Symposium on Immunopharmacology, New York Heart Assoc., New York, N.Y. (L. Saulpaugh, NYHA, 2 E. 64 St., New York 10021)
20. National Assoc. of Medical Examiners, Las Vegas, Nev. (P. Hudson, P.O. Box 2488, Chapel Hill, N.C. 27514)
20-23. American Acad. of Forensic Sciences, Las Vegas, Nev. (J. T. Weston, 44 Medical Dr., Salt Lake City, Utah, 84113)
21-6. American Medical Assoc. and Weizmann Inst. of Science, Tel Aviv, Israel. (Israel Scientific Conf., Dept. of Intern. Medicine, AMA, 535 N. Dearborn St., Chicago, Ill. 60610)
24-3. International Acad. of Pathology, U.S.–Canadian Div., Washington, D.C. (L. D. Stoddard, Dept. of Pathology, Medical College of Georgia, Augusta 30902)
25. Oregon Acad. of Science, Salem. (H. D. Reese, Dept. of Chemistry, Oregon State Univ., Corvallis 97331)

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March


2-3. International Geobotany Conf., Knoxville, Tenn. (C. Amundsen, Graduate Program in Ecology, Univ. of Tennessee, Knoxville 37916)

3-9. American Concrete Inst., annual, Atlantic City, N.J. (ACI, Box 4754 Redford Sta., Detroit, Mich. 48219)

5-7. Particle Accelerator Conf., 5th, San Francisco, Calif. (E. J. Lofgren, Lawrence Radiation Lab., Univ. of California, Berkeley 94720)


6-10. Lymphology, 4th intern. congr., Tucson, Ariz. (C. L. Witte, Dept. of Surgery, Univ. of Arizona College of Medicine, Tucson 85721)

8-11. Southern Anthropological Soc. (9th annual) and American Ethnological Soc., Wrightsville Beach, N.C. (T. Fitzgerald, Dept. of Sociology and Anthropology, Univ. of North Carolina at Greensboro, Greensboro 27412)


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12-15. American Soc. for Neurochemistry, 4th, Columbus, Ohio. (L. A. Horrocks, Dept. of Physiological Chemistry, Ohio State Univ., 1645 Neil Ave., Columbus 43210)
15-16. Estuaries of the Pacific Northwest, 3rd technical conf., Corvallis, Ore. (L. S. Slotta, Ocean Education Programs, School of Engineering, Oregon State Univ., Corvallis 97331)
16. Mississippi Acad. of Sciences, Biloxi. (D. L. Dodgen, University Medical Center, Jackson, Miss. 39216)
18-22. Society of Toxicology, New York, N.Y. (R. A. Scale, ST, Esso Research and Engineering Co., P.O. Box 45, Linden, N.J. 07036)
18-23. Deafness, 4th intern. conf., World Federation of the Deaf and Association of the Deaf and Mute in Israel, Tel Aviv, Israel. (A. Reich, Organizing Committee, P.O. Box 16271, Tel Aviv)
22-23. Information Sciences and Systems, 7th conf., Princeton, N.J. (T. Pavlidis, Dept. of Electrical Engineering, School of Engineering/Appiled Science, Engineering Quadrangle, Princeton 08540)
26-29. Institute of Electrical and Electronics Engineers, New York, N.Y. (D. G. Fink, IEEE, 345 E. 47 St., New York 10017)
27-29. Reduction of Pollutants in Heterogeneous Combustion Processes, Combustion Inst., Central States Section, Champaign, Ill. (R. A. Strehlow, 105 Transportation Bldg. Univ. of Illinois, Urbana 61801)
29-30. Rural Health. American Medical Assoc., Dallas, Tex. (B. L. Bible, AMA, 535 N. Dearborn St., Chicago 60610)
29-31. Northwest Scientific Assoc., Walla Walla, Wash. (G. H. Dietzman, U.S. Forest Service, P.O. Box 469, Moscow, Idaho 83843)
31. New Jersey Academy of Science, West Long Branch (M. L. Brinlan, Box 61, Cranbury, N.J. 08512)

April
2-7. Reliability Physics Symp., Inst. of Electrical and Electronics Engineers, Las Vegas, Nev. (H. Laufenburger, IIT Research Inst., 10 W. 35 St., Chicago, Ill. 60616)
3-13. Education of Teachers for Integrated Science, Committee on Teaching of Science, International Council of Scientific Unions, College Park, Md. (M. Dietz, Science Teaching Center, Univ. of Maryland, College Park 20742)
5-7. Alabama Acad. of Science, Hunts-
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13. Utah Acad. of Sciences, Arts and Letters, Logan. (H. Buehnan, Dept. of Botany, Weber State College, Ogden 84403)

13–14. Socio-Economics of Health Care, American Medical Assoc., Chicago, Ill. (J. Rowland, Div. of Medical Practice, AMA, 535 N. Dearborn St., Chicago 60610)


16–18. Liquid State—Van der Waals Centenary, Kent, England. (Meetings Officer, Inst. of Physics, 47 Belgrave Sq., London SW1X 8QX England)

16–18. Nonlinear Elasticity, Madison, Wis. (G. G. Moran, Mathematics Research Center, Univ. of Wisconsin, 610 Walnut St., Madison 53706)


18–20. Great Lakes Research. 16th conf., Intern. Assoc. for Great Lakes Research, Columbus, Ohio 43210. (C. E. Herdendorf, Center for Lake Erie Area Research, College of Biological Sciences, Ohio State Univ., 484 W. 12 Ave., Columbus 43210)

19–21. Louisiana Acad. of Sciences.

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25-27. The Ocean, Nuclear Energy, and Man, American Nuclear Soc. and Marine Technology Soc., Palm Beach Shores (Singer Island), Fla. (M. J. Ohanian, Dept. of Nuclear Engineering, Univ. of Florida, Gainesville 32601)
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666

SCIENCE, VOL. 178