arising at any point in the examination may prompt some sort of field test. Conversely, results of field testing may stimulate further consideration of ophthalmoscopy or case history. If the patient has been 'screened' for field defects, and if the result is negative, then the practitioner's index of suspicion will be reduced, and he/she may not give any further thought to any field testing. False negatives make this consideration even more distressing.

Conclusion

In today's world of high technology (especially computer technology), the arguments above have stimulated engineers and computer programmers to develop still larger and more expensive apparatus. I would like to question the basic premises behind development of automated field testing hardware/software. Those premises are:
1. It is a waste of time for a practitioner to test fields.
2. A machine, especially an expensive machine, can do it better.

The first premise is probably accepted by many practitioners because they haven't been finding any interesting field defects. I would suggest that this is because they haven't been testing the right people, using the right test, or considering the right part of the visual field.

The second premise has a more subtle origin. This century has seen tremendous technological advances. It is not surprising that many people have been conditioned to accept the notion that machines can do virtually anything better than people. Certainly a computer can manipulate data faster than a human can. The problem with the second premise is that the computer is not truly capable of *originating* ideas. Locating a visual field defect is similar to the process of any scientific discovery. In the early days of science, it was thought that if you collect *all* available information on a subject, a relation among the facts would become evident by itself: this is the deductive approach. Another method is to collect some information on the subject and think it over for a while: you may gain some insight into it 'spontaneously': this is the inductive approach. Any honest practitioner will admit that there is an element of luck in solving some problems: sometimes there is a chance remark or a random observation which makes the diagnosis suddenly spring to mind. Such inductive leaps are precluded by the use of a machine: there is no program which describes intuition — even if there were, there is no computer which would be able to use such a program.

Reversing the preceding argument, I suggest that a field testing apparatus would be best suited to solving deductive-type problems — but these are the easiest kind to solve anyway. The automated field testing instrument is most likely to fail when the problem becomes difficult: this is hardly what you would pay a lot of money for!

References

1. Traquair, H.M., *An Introduction to clinical perimetry*, C.V. Mosby, St. Louis, 1931, p. 30.
2. Harrington, D.O., preface to 4th ed of *The visual fields*, C.V. Mosby, St. Louis, 1976.
3. Keltner, J.L. and C.A. Johnson, Automated perimetry II. Devices manufactured in the United States and abroad, *Annals of Ophthalmology* 13(4): 395-397, April, 1981
4. Greve, E.L. and W.M. Verduin, Mass visual field investigation in 1834 persons with supposedly normal eyes, Albrecht v. Graefe's Arch klin exp Ophthal 183:286-293, 1972

T. David Williams, O.D., M.S., Ph.D.
Associate Professor
School of Optometry
University of Waterloo

LETTERS

Editor, C.J.O.

I would like to compliment the C.J.O. and the authors on the publication of "Chemical Components of Contact Lens Solutions." In my opinion it is a very well done paper and will be of great practical use in my practice. I am sure others will agree.

As a trustee of the Canadian Optometric Education Trust Fund, I am particularly gratified by the calibre and content of the paper. My thanks to all concerned.

Jack F. Huber, O.D.

Editor, C.J.O.

In the otherwise well-informed article by Lum and Lyle in your December issue, on the chemical components of contact lens solutions, comparison of costs for various solutions and regimens was undertaken. In this comparison, the basis for per cost estimate for enzyme cleaners used by the authors was 2 tablets or packets/week.

In the case of Clean-O-Gel this basis for calculation is not correct, since Clean-O-Gel only requires *one* packet per week to clean both lenses, not one per lens as required by other enzyme cleaners. Using one packet per week for Clean-O-Gel would bring Lum and Lyle's estimated cost to $2.38, making it the least expensive enzyme cleaner on the market.

Keith D. Gordon, Ph.D.
Director of Marketing
Alcon Canada Inc.