ISSN 0045-5075

THE CANADIAN JOURNAL OF Optometry

CAO ANNUAL REPORT FOR 1981 — p. 32
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LA REVUE CANADIENNE d'OPTOMÉTRIE

MARCH, 1982 MARS

VOL. 44, NO. 1

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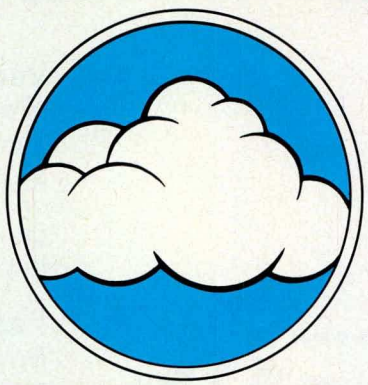

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THE CANADIAN JOURNAL OF OPTOMETRY

LA REVUE CANADIENNE D'OPTOMETRIE

Vol. 44 **OTTAWA, ONTARIO, MARCH 1982** **No. 1**

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Cover Photo by Malak. Color separations courtesy Wyman and Son Publications Ltd., publishers of Scenic Calendars of Canada.

THE CANADIAN JOURNAL OF OPTOMETRY is the official publication of the Canadian Association of Optometrists and is published quarterly. All original papers, clinical reports, books for review, proceedings of provincial Boards, Associations and Societies should be addressed to the Editor, Canadian Journal of Optometry, 210 Gladstone Ave., Ste. 2001, Ottawa, Ontario, K2P 0Y6. Subscription and advertising rates are available upon application. The Canadian Association of Optometrists and the publishers of this Journal have no objection to the reprinting by other magazines of any of the articles in this issue, provided such reprints are properly credited to the Canadian Journal of Optometry. Reproductions of articles by other than professional journals with permission of editor only.

Rates $5.00 per Copy $20.00 per year

Postage paid in cash at third class rates, permit number 3019. Return postage guaranteed.

Typesetting & layout: APH Limited

Printing: Dollco

GUEST EDITORIAL

Problems with Automated Field Testing

"The perimetrist should never allow the excellence of his apparatus to govern his interpretation of the results obtained."[1]
Harry Moss Traquair

"there is no real substitute for the visual field examination conducted by the (practitioner) himself."[2]
David O. Harrington

There has been an explosion of interest in automated field testing over the past 10 years. Dozens of instruments[3] are either on the market or at the prototype stage, and their costs (in 1981) ranged from US$3000 to 100,000. Hundreds of articles have been written on this subject, mainly in the European and US journals. In order to help the practitioner achieve some sort of balanced view of these developments, I would like to offer my reasons for *not* using an automated field testing instrument.

1. Prevalence of Field Defects

There are few studies which describe the number of patients found with field losses in a general practice. Those studies which are available[4] indicate that something less than 2% of people in a routine sample will have a field loss. Of this group, 70% of the field anomalies would have been predicted based upon other information obtained in a routine eye examination: causes included (in descending order of frequency) infective or traumatic retinal lesions, macular lesions, refractive scotomas, cataract, glaucoma, peripheral senile retinal degeneration, occlusion of the central retinal artery, and drusen of the optic nerve head. No etiology was established for the remaining 30% of the field losses.

It would be more productive to concentrate the study of visual fields on those patients who are likely to have a field loss, rather than screening everybody. The latter method consumes a lot of time and has the potential of generating false negatives (although it will no doubt produce some true positives).

2. Nature of Field Defects

Field defects are frequently hard to find, even though you know they are present. They may also be transient. Finding a field defect requires use of appropriate tests (e.g. Amsler grid, tangent screen, or perimeter), appropriate stimuli (correct target size, brightness, color, rate of movement), and appropriate instructions to the patient (which will vary from patient to patient). It is usually necessary to concentrate the search in a particular portion of the visual field. Automated field testing (AFT) runs afoul of most of these considerations: most practitioners opt for a single AFT instrument, and thus are locked into a single type of test (e.g. Friedmann Field Analyser covers a 25° radius, while many others are built in a hemispherical format, with a 90° radius). Much AFT equipment uses stimuli in predetermined locations: often the same stimuli are used on all patients. This design feature makes it impossible (in many cases) to do a concentrated search in the area where the scotoma is thought to be. From a mathematical standpoint, moreover, it could be said that a single pass through the right meridian of the visual field tests not only *more* points, but *more useful points* than the whole battery of preplaced points in many AFT instruments.

While the idea of testing a *standardized* group of points in the visual field has a superficial appeal to it, we should keep in mind that most visual field defects are notoriously capricious: it is unlikely that a rigidly standardized test would find them. Some of the more sophisticated AFT equipment will permit a concentrated search in an area of the field; however, it is unreasonable to expect even a programmable AFT instrument to duplicate the mental twists and turns executed by a practitioner whose suspicions have been aroused. Uncertain responses, which are often full of information for a clinician, will not be picked up by many AFT instruments.

3. Types of AFT equipment

The purpose of early types of AFT instruments was simply to divide (or screen) the patient population into those with field losses and those without. The next step was supposed to be an accurate, quantitative field assessment by the practitioner. The latter step has been taken less and less frequently in recent years, for two main reasons: first, the current generation of AFT equipment possesses considerable sophistication, so that the practitioner may expect it to produce truly quantitative, definitive plots of the field; second, many practitioners, once they have acquired a machine to liberate them from the tedium of field testing, come to depend on it for *all* testing, and do not do *any* further testing themselves.

4. Flow of examination

Ideally, all aspects of an examination should be interactive. Clues

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!

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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.

The C.O.E.T.F. needs your support . . . but we are also ready to support you! There is information and an application form on pp. 6, 7 of this issue. If you qualify, or know of someone who does, please use it.

The Canadian Optometric Education Trust Fund Invites Applications for Funding under the awards schedule for the 1982 Grant Program

Purpose of the COETF

Recognizing the need to support the continuing growth and development of the profession of Optometry, the COETF is prepared to financially assist the educational, research and manpower programs deemed by the Trustees to be most important to achieving these goals.

Suitably trained optometric manpower, and the profession's continued access to that manpower is vital to our academic evolution. *The COETF supports* faculty development in our schools of optometry, graduate students in specialized educational programs and investigative research by undergraduate students.

Ongoing research undertaken by the optometrist in private practice is just one type of professional development program which optometry must continue to initiate. *The COETF supports* projects established in a clinical environment to assist the visually handicapped and to assist other optometrists through preparation and publication of the details of these clinical research studies.

A third Canadian school of optometry is of vital concern to the profession. The ongoing activities of our two existing schools are just as important. *The COETF supports* needed alterations and renovations at both schools presently operating and stands ready to substantially assist in the operating cost support of a new school of optometry in Canada.

Continuing education in the 80s must be regular and structured as technology sweeps the profession forward into new methods and discoveries in the delivery of complete vision care. *The COETF supports* the development of an academic Chair of Physiological Optics and Continuing Education to meet these ongoing needs.

The Canadian Optometric Education Trust Fund invites your support in this "Vision of the Future". If you are (or know of) an optometric practitioner, student, educational institution, service organization or member of the general public who is presently involved in, or planning a program that meets any of the goals outlined above, then assistance might be available to achieve the project's objectives. Write to us, using the application at right, by May 1, 1982. The Trustees assure that all projects meeting the purposes of the Fund will be given serious consideration.

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FUNDING CATEGORY ..... ☑
Post Doctoral Study ..... ☐
Clinical Research ..... ☐
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Public Vision Care
(conducted by non-academic
or non-practitioner) ..... ☐

Title, nature and description of project _____

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Expected date of completion _____

Expected benefit from project _____

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Estimated Budget

Personal Services	Salaries	Equipment	Supply Mtl.	Travel	Tuition	Other (specify)
				Total Grant Requested $		

A formal written report will ☐ will not ☐ be a part of this study. (If yes, a copy must be submitted to the Trustees of the Fund and will be considered for publication in the Canadian Journal of Optometry. If no, a final summary and evaluation of the results of the project must be submitted to the Trustees of the Fund within 60 days of the completion of the project.)

_____ _____

SIGNED DATE

AOA Counsel Tom Eichhorst Visits U. de M. School of Optometry

University of Montreal School of Optometry students and faculty recently attended a lecture by Thomas E. Eichhorst, Counsel of the American Optometric Association and Director of the AOA Office of Legal Affairs.

Representatives of the Canadian Association of Optometrists, the Order of Optometrists of Quebec and the Professional Association of Optometrists of Quebec were also in attendance at the November 6, 1981 lecture.

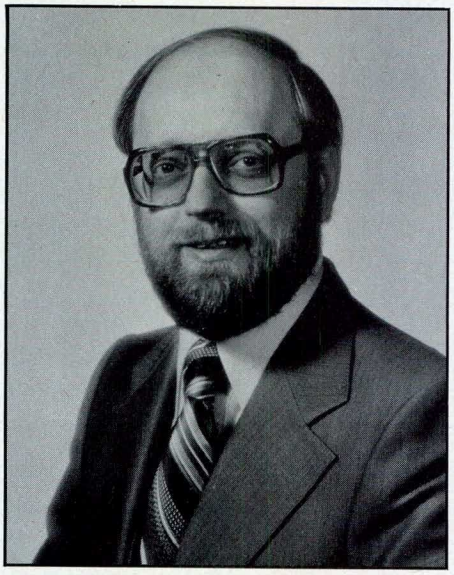
Dr. Claude Beaulne, as School of Optometry Director welcomed Mr. Eichhorst, M.A., J.D., applauding his distinguished career and public service.

In his remarks, he noted Mr. Eichhorst has held the office of Assistant Attorney General of Missouri, on the staff of former Attorney General (now U.S. Senator) Thomas F. Eagleton. As former President of the Young Democrats of Metropolitan St. Louis, he received strong St. Louis endorsement during his candidacy as State Representative. Mr. Eichhorst's extensive background in politics later prepared him for a teaching role in Political Science at the University of Missouri.

Acknowledging Dr. Beaulne's introduction, Mr. Eichhorst drew particular attention to the close ties that have always existed between members of the profession of optometry on both sides of the border and conveyed the greetings of the American Optometric Association.

In his opening remarks, Mr. Eichhorst emphasized the important health service role of optometry and the pride which optometrists may rightfully take in their skilled contribution. The optometrist is a primary health care provider, he said, whose services, when made readily accessible to the public, are both most economic and efficient.

Mr. Eichhorst discussed several trends in U.S. optometry, notably changing public attitudes and the development of third party vision care. He said the emergence of informed consumers is a positive development underlining their right to participate in decision-making processes concerning prescribed treatment. With respect to the trend of third party vision care, he said optometry must be prepared to meet this expanding area of sponsored employee benefits.



He also drew attention to the increasing trend in the U.S. whereby optometrists accept employment with a company or corporation, raising the question of possible outside influences on professional judgement.

Mr. Eichhorst outlined certain issues on the involvement of the Federal Trade Commission in Optometric services including the recently required release of prescriptions to patients.

In his concluding remarks, Mr. Eichhorst emphasized that every optometrist must strive to develop and maintain a professional rapport with the optometric patient and to constantly apply every facet of optometric knowledge and practice.

Ben V. Graham, O.D., Ph.D.

M. Tom Eichhorst, conseiller juridique de l'AOA, rend visite à la Faculté d'optométrie de l'U. de M.

Les étudiants et le corps enseignant de la Faculté d'optométrie de l'Université de Montréal ont récemment assisté à une conférence de M. Thomas E. Eichhorst, conseiller juridique de l'American Optometric Association et directeur du contentieux au siège social de cet organisme.

A cette occasion, soit le 6 novembre 1981, on comptait également des représentants de l'Association canadienne des optométristes, de l'Association professionnelle des optométristes du Québec et de l'Ordre des optométristes du Québec.

Le Dr. Claude Beaulne, en sa qualité de doyen de la Faculté d'optométrie, a souhaité la bienvenue à M. Eichhorst, M.A., J.D., et l'a présenté en faisant état de sa prestigieuse carrière et de ses états de service dans le secteur public.

Ainsi, il a signalé que M. Eichhorst avait occupé le poste de procureur général adjoint du Missouri, membre du personnel de l'ancien procureur général (aujourd'hui sénateur américain), M. Thomas F. Eagleton. En sa qualité d'ancien président des jeunes Démocrates du St. Louis métropolitain, il a reçu un fort appui de la population de cette ville lorsqu'il s'est porté candidat au poste de représentant de l'Etat. Les antécédents de M. Eichhorst en politique l'ont préparé à éventuellement assumer le rôle d'enseignant en science politique à l'Université

du Missouri.

Lorsqu'il a remercié le Dr. Beaulne de ses bons mots, M. Eichhorst a souligné en particulier les liens qui existent depuis toujours entre les membres de la profession de l'optométrie des deux côtés de la frontière et il a transmis les salutations des membres de l'American Optometric Association.

M. Eichhorst a ensuite entamé sa conférence en mettant l'accent sur le rôle important que joue l'optométrie dans les services de santé et sur la fierté professionnelle que les optométristes en retirent, à juste titre d'ailleurs. L'optométriste dispense un service de santé de première ligne, service très économique et très efficace lorsque la population y a facilement accès.

M. Eichhorst a parlé des diverses tendances de l'optométrie aux E.-U., notamment le changement d'attitude de la part de la population et la mise en place de soins de la vision au tiers. Il a ajouté que le fait que le consommateur soit de plus en plus éclairé était un pas dans la bonne voie, soulignant que la population a le droit de participer à la prise de décisions en matière de traitements d'ordonnance. Puis, revenant à la tendance relative aux soins de la vision au tiers, il a déclaré que l'optométrie doit être disposée à relever le défi que lui pose ce nouveau genre d'avantage social offert aux travailleurs.

Il a aussi attiré l'attention sur une autre tendance qui se manifeste de plus en plus aux E.-U., en vertu de laquelle des optométristes acceptent un emploi auprès d'une entreprise ou d'une société, ce qui soulève la question de la possibilité d'influences extérieures sur le discernement professionnel.

M. Eichhorst a souligné certaines questions concernant les travaux de la Federal Trade Commission in Optometric Services, y compris celle de la remise des ordonnances aux patients, qui est récemment devenue obligatoire.

En terminant, M. Eichhorst a insisté sur le fait que tout optométriste doit s'efforcer de nouer et de maintenir des liens professionnels avec ses patients et d'appliquer constamment toutes les facettes de ses connaissances de l'optométrie et de l'exercice de la profession.

Ben V. Graham, O.D., Ph.D.

COMING EVENTS

Devoted to Optometric events either hosted by, or directly affecting Canadian optometry. Members seeking information on international optometric gatherings are invited to draw on our resource file by contacting directly:

Michael J. DiCola
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Canadian Journal of Optometry
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MARCH

March 31 — April 1, 2

Quebec Association for Children with Learning Disabilities
Congrès 1982

(7th Annual International Conference)
Queen Elizabeth Hotel
Montreal, P.Q.

Contact: QACLD Congrès 1982
C.P. 997, Snowdon,
MONTREAL, P.Q.
H3X 3Y1

APRIL

1 — 4
Manitoba Optometric Society Annual Meeting
WINNIPEG, MAN.

Contact: Dr. Harry Basman
M.O.S. Exec. Dir.
(204) 268-2388

MAY

11 — 14
S.O.S. Continuing Education

SASKATOON, SASK.

Contact: Dr. R. Gulka
(306) 242-8086

16 — 19
British Columbia
Optometric Association
Convention & Annual General Meeting
Island Hall,
Parksville, B.C.

Contact: Nina P. Cline
Exec. Secretary
B.C.O.A.
(604) 685-1810

JUNE

19 — 20
I.O.O.L. Annual Meeting
Boston, Mass.

Information: Assessor Helmut Helle
WVAO
Adam Karillonstrasse 32,
D6500 Mainz
Germany

AUGUST

30 — 31
Canadian Optometric Contact Lens Society
International Forum
&
1st Annual General Meeting
Hotel Meridien
Montreal

Contact: M.J. DiCola
C.A.O., OTTAWA
(613) 238-2006

OCTOBER

9 — 10
A.P.O.Q.
4th International Symposium on Contact Lenses
MONTREAL, P.Q.

Information: A.P.O.Q.,
614, St-Jacques Ouest
Room 302, Montreal, P.Q.
H3C 1E2

ERRATUM

In our last issue, we announced the appointment of Dr. Jacob Sivak to the position of Associate Director, School of Optometry, University of Waterloo. In so doing, we inadvertently identified Dr. Sivak as an Associate Professor. He is, in fact, a full Professor and we apologize for this error and any embarrassment it may have caused.

Adjusting the joint angle

a job that is perhaps so much a part of the optical practitioner's daily routine that we (and this has always been the case) hardly ever give it a thought.

Adjusting the joint angle

something our technical experts began giving considerable thought to and they came up with an idea that seemed worth patenting. The patent is meanwhile pending.

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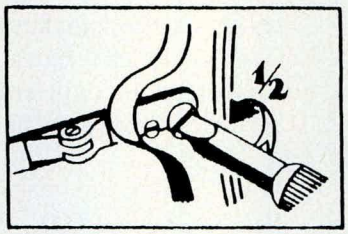
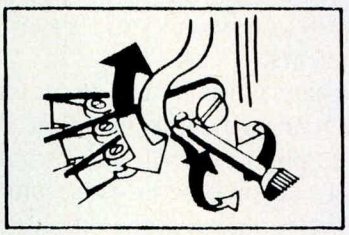


Loosen the locking screw.



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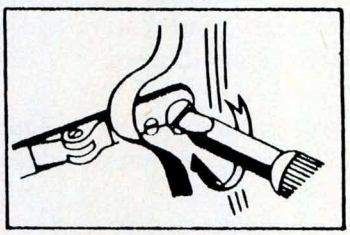

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Low Vision Care in Canada: The Quebec Perspective.

S.W. Rudkin,*

While the heated exchanges and friction continue among the three principal sources of eye care specialists—the ophthalmologists, optometrists and opticians—as evidenced by a front page article in the Montreal Gazette November 16th 1981, it is significant that nothing was mentioned of Low Vision Care.

It is significant perhaps, but not surprising, since few persons, including the great majority of these professionals, understand the concept or the practical needs of persons with low vision. For the small percentage of ophthalmologists and optometrists who do possess a reasonable knowledge of this relatively new field, few can afford to participate in the work due to its time-consuming nature and the need for resources and expertise beyond their routine clinical skills.

It is not by accident that most of the largest and most effective low-vision clinics in North America are operated by agencies for the blind. The clinic attached to the New York Association for the Blind known as "The Lighthouse" for example, is one of many excellent agency-run low-vision services in the United States. It has served as model and inspiration for one of Canada's most comprehensive low-vision clinics at the Montreal Association for the Blind.

In Canada, low-vision care is in its infancy. Worthy of mention is the University of Waterloo's School of Optometry in Ontario which runs an excellent low-vision service. It is naturally very strong in its optometric component and is endeavouring to increase its comprehensiveness by incorporating and interacting with other low vision services.

The Baker Foundation in Toronto approaches low vision from the other end of the spectrum, concentrating on the quick and easy access to non-prescription magnifiers, telescopes, and low-vision accessories. They have been experimenting with and designing inexpensive but often effective low-vision devices. An increasing number of hospitals in major cities across the country are beginning to gather a small collection of magnifiers for demonstration to those patients who might be referred following an ophthalmological examination. They generally don't have any devices for loan or purchase; little or no training takes place; few if any non-optical aids such as lamps, reading stands, writing devices or mobility aids are available and no follow-up is given. Usually the patient is given a prescription, often without having tried the aid, and informed of stores or opticians where the aid might be acquired.

The situation is a little brighter in the Province of Quebec where three major centres now serve the rehabilitation needs of the visually-handicapped, including the low-vision requirements of the partially sighted. About five years ago, the Quebec Government, recognizing the absence of adequate service for the majority of Francophone visually-handicapped persons, approached the Montreal Association for the Blind for assistance to develop new services. The MAB helped the Ministère des Affaires Sociales in the hiring and training of staff for the two new Government AMEO Centres of Nazareth-Louis-Braille in the southeast end of Montreal and Centre Louis Hébert in Quebec City. These two new rehabilitation centres, along with the Montreal Association for the Blind, now are able to offer the visually handicapped population of Quebec more rehabilitation and low-vision services than any other area of the country. In addition, all aids and devices, including expensive prescriptions and even electronic visual aids (EVA's) such as closed circuit television systems (CCTV's) are provided free of charge for visually-handicapped persons under 35 years of age. It is estimated that in Quebec alone there are 50,000 persons with a visual acuity of less than 20/70 who might benefit from low-vision services.

What do we mean by "Low Vision"? At the Montreal Association for the Blind, as in many other agency-run low-vision clinics, we are not bound by legal definitions, although the majority of clients have less than 20/70 acuity. Rather, we are concerned with how their reduced vision is causing problems in their everyday activities. If a person expressed unusual difficulty in reading, writing, getting around safely alone, or any other problem associated with a significant reduction in vision, they are welcome to be seen for a low-vision assessment. A thorough low-vision assessment should include the following elements:

1: an ophthalmological examination or recent report to clarify or recommend any pathological question;
2: a low-vision interview to establish and clarify the functional problems and expectations of the client;
3: field tests and colour tests when appropriate;
4: an optometric examination to check the validity of the client's current prescription, refraction, trial of headborne devices for near and distance, and recommendations to low-vision therapists or assistants as to the appropriate power of other aids to examine;

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5: an examination of optical aids such as hand and stand magnifiers, distance aids and monoculars, electronic magnifiers and sun-control devices;
6: an examination of non-optical aids such as lamps and reading stands, large print, talking books on record and cassette, Braille low-vision and talking watches, writing and cheque guide devices, and recreational devices.

A thorough low-vision assessment generally requires 2 to 4 hours and involves 3 to 6 professionals. The assessment, however, is only the beginning. A successful low-vision service should also include the following elements:

1: a loan of aids service to allow the clients an opportunity to experiment with the devices under their real, and often less-than-ideal conditions;
2: a stock of aids for immediate loan or purchase;
3: a period of training and experimentation with the low-vision therapist, both at the clinic, and when possible, in the home;
4: a source of quick and easy referral to other services as required, such as orientation & mobility specialists, rehabilitation teachers and occupational therapists for help in activities of daily living such as typing, writing, Braille and optacon; counselling, and recreational pursuits;
5: a system of regular follow-up.

It is probably clear, from the description of recommended components in a successful low-vision clinic, why the majority of comprehensive low-vision services are found in agencies for the visually handicapped, where most of these services already exist. The need in Canada, however, is too great for agencies alone to supply the majority of the low-vision services. The challenge of meeting the demand for improved low-vision care in this country should be recognized and faced by all professionals who work in the broad field of eye care. Individual practice could include more elements pertaining to low-vision. More frequent referrals to more comprehensive low-vision services could be made. Above all, an increased sensitivity and awareness of the problems of persons with low vision could go a long way to helping Canadians with poor vision get the proper assistance that is within our capability to provide.

Montreal Association for the Blind Low Vision Clinic

Founded in 1908, the Montreal Association for the Blind has continually added to its client services. In 1979, the MAB established an extensive service to provide low vision aids.

What makes the MAB service particularly effective is the fact that it brings together a multi-disciplinary team of experts working cooperatively in one location.

Once the ophthalmological assessment is received, the patient is treated by professionals in the fields of Optometry, Occupational Therapy, Mobility, Rehabilitation and Social Work. A great deal of assessment, counselling and training is given to the client through these allied services. The MAB carries a wide range of optical and non-optical aids which are made available to anyone handicapped by a lack of vision. Overall emphasis is on the team approach, to enable those who are visually impaired or blind to compensate for their visual deficits and to achieve their highest level of self-sufficiency.

L'Evaluation de l'acuité visuelle chez le handicapé visuel

Pierre Simonet*

Résumé:

L'acuité visuelle est un critère de classification du handicap visuel, une évaluation précise en est donc nécessaire. Or les procédures conventionnelles de mesure ne sont pas adaptées aux handicapés visuels et peuvent conduire à une évaluation erronée. Une légère modification des conditions de mesure et l'emploi d'échelles d'acuité à progression lente, sont des moyens peu onéreux et faciles à utiliser dans la pratique quotidienne pour la mesure de l'acuité chez le handicapé visuel.

Abstract:

The visual acuity is a criteria of classification for the visually handicapped; a precise evaluation is therefore necessary. The usual procedures of measurements are not suited for the visually handicapped and can lead to an erroneous evaluation. A slight modification in measuring techniques, and the use of slow progression acuity charts are the less expensive means; easy to use in the daily practice of measuring the acuity of the visually handicapped.

Introduction

L'évaluation de l'acuité visuelle est un acte courant de la pratique optométrique et médicale. Toutefois la méthode et les moyens utilisés de manière conventionnelle chez l'amétrope ne sont pas adaptés pour le handicapé visuel. En effet, les procédures habituelles, ne cernent qu'un ordre de grandeur de l'acuité visuelle dans les cas sévères d'amblyopie organique. Or, de tels cas nécessitent une évaluation précise de l'acuité visuelle. Le professionnel de la santé pourra la réaliser facilement à même sa pratique quotidienne s'il adapte et s'il modifie légèrement ses techniques habituelles. Tout optométriste, dans la mesure où il agit en première ligne des soins oculo-visuels, doit pouvoir effectuer ce type d'évaluation.

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NÉCESSITÉ D'UNE ÉVALUATION PRÉCISE

L'acuité visuelle est un des paramètres de la fonction visuelle. Son évaluation rigoureuse revêt une importance capitale dans le cas d'un handicapé visuel, elle est une nécessité administrative et professionnelle.

a) Nécessité administrative

L'acuité visuelle est un des critères retenus dans la loi ou les règlements administratifs pour la reconnaissance d'un statut et des droits qui y sont rattachés.

Ainsi, au Canada une personne est aveugle sur le plan légal lorsque son acuité visuelle dans les deux yeux, après correction par l'usage de lentilles réfractives appropriées est de 20/200 (6/60) ou moins, d'après l'échelle de Snellen ou l'équivalent, ou si le plus grand diamètre du champ de vision dans les deux yeux est inférieur à 20° (1). Cette définition est le critère d'admission à l'Institut National Canadien pour les aveugles, elle confère à toute personne elligible une réduction au niveau de l'impôt sur le revenu.

Au Québec, le Ministère des Affaires Sociales a mis sur pied un programme d'aides aux handicapés visuels. Ce programme A.M.E.O. (aides mécaniques, électroniques et optiques) prévoit l'attribution gratuite de ces aides pour les personnes nées après le 30 novembre 1942. Le bénéficiaire de ce programme A.M.E.O. est toute personne qui réside au Québec, et qui après correction au moyen de lentilles ophtalmiques appropriées à l'exclusion des systèmes optiques spéciaux et des additions supérieures à $^{+}4$ dioptries, a une acuité visuelle de chaque oeil d'au plus 20/70 (6/21); où dont le champ de vision de chaque oeil est inférieur à 60° dans les méridiens 180° et 90°, et qui dans l'un ou l'autre cas, est inapte à lire, à écrire ou circuler dans un environnement non familier (2). Cette définition du handicap visuel est aussi utilisée par les pouvoirs publics québécois dans l'attribution d'avantages sociaux. Ainsi un supplément d'allocations familiales est accordé aux familles dont un des enfants présente un handicap visuel.

La notion d'aveugle-légal introduite dans la plupart des pays occidentaux à des fins de classification et d'attribution d'avantages sociaux est un concept relativement restrictif et arbitraire comparé à celui de handicapé visuel. L'Organisation Mondiale de la Santé tend à favoriser l'abolition de la notion d'aveugle-légal. Cette organisation retient toutefois l'acuité visuelle comme un des critères de la classification du handicap visuel (tableau I). Cette classification récente cerne avec plus de précision les différents niveaux du handicap visuel (3). Une évaluation précise de l'acuité visuelle, est un pré-requis pour cette classification, afin que cette dernière soit valide et que les recherches épidémiologiques futures l'utilisant soient convenables.

L'optométriste comme professionnel de la santé doit informer le patient de sa condition oculaire, il doit aussi établir toutes les attestations requises sur le plan administratif et légal. Une évaluation précise

de l'acuité est nécessaire pour se conformer à la justice et pour respecter les droits du patient. Ainsi un individu dont l'acuité serait encore de 20/120 (3/36) pourrait se voir attribuer l'étiquette d'aveugle-légal si la mesure de l'acuité est faite dans les conditions habituelles avec un projecteur de tests. Une telle procédure présenterait un caractère frauduleux, et injuste pour le patient.

b) Nécessité professionnelle

Sur le plan professionnel, l'acuité visuelle est une information importante dans l'examen clinique en basse vision. En effet, si on tient compte de l'atteinte du champ visuel, ou de l'étiologie de l'amblyopie, il est généralement possible d'estimer le grossissement des aides optiques requises pour une tâche spécifique. Ce grossissement théorique est calculable facilement en vision de près, à condition toutefois d'avoir une évaluation convenable de l'acuité visuelle. La détermination du grossissement théorique permet d'éviter une approche empirique par essais et erreurs au cours de l'examen clinique en basse vision. Elle est en effet le point de départ de l'examen aux aides optiques (4). La valeur du grossissement théorique G est obtenue par la formule suivante:

$$G = \frac{\text{acuité visuelle requise}}{\text{acuité visuelle mesurée}}$$

Ce calcul théorique n'est d'aucun recours pour l'examen aux aides optiques, si l'acuité est exprimée par le mouvement de la main à 6 mètres ou le décompte des doigts à 10 pieds (3 mètres). L'optométriste, s'il connaît avec précision l'acuité visuelle avec la meilleure correction, peut donc aisément effectuer un examen clinique en basse vision.

Les incapacités du handicapé sont conditionnées par l'atteinte de son acuité et de son champ visuel. Aussi une évaluation précise permet de mieux comprendre les problèmes fonctionnels du handicapé ainsi que ses besoins en vue d'une intégration sociale. Il est donc possible de cerner avec une précision relative le type de réadaptation nécessaire à l'individu. En effet si le champ visuel reste intact, et si l'atteinte de l'acuité visuelle est minime il est possible de fournir une réadaptation centrée sur l'utilisation des aides optiques. Cette réadaptation de courte durée peut être fournie directement à même un bureau professionnel (5). Par contre si l'atteinte de l'acuité est plus sévère et si elle s'accompagne d'une restriction du champ visuel, la réadaptation sera un processus de plus longue durée et faisant aussi appel à d'autres professionnels. Cette réadaptation nécessite l'intervention d'une équipe pluridisciplinaire et ne peut être réalisée qu'en milieu institutionnel.

Une évaluation précise de l'acuité et du champ visuel est donc un prérequis soit à un examen optométrique en basse vision, soit à une référence intra ou inter-professionnelle.

PROBLÈME DE MESURES

L'évaluation de l'acuité visuelle consiste à déterminer la limite de résolution angulaire du système visuel, par le biais d'un série d'optotypes étalonnés. Si la notation Snellen est choisie, l'acuité s'exprimera par le rapport entre la distance réelle de mesure et la distance d'etalonnage de l'optotype. L'évaluation sera d'autant plus exacte que l'intervalle de taille entre deux optotypes sera réduit afin de pouvoir cerner avec précision la limite de résolution.

Ainsi une bonne échelle d'acuité visuelle doit présenter une progression régulière et lente entre tous ses optotypes. Les échelles d'acuité utilisées en pratique quotidienne présentent un taux de progression variable d'un optotype à l'autre. En effet la progression est lente pour les optotypes nécessitant un bon pouvoir de résolution, c'est ainsi qu'on retrouve quatre optotypes entre 20/30 et 20/15. Par contre pour les optotypes demandant un pouvoir de résolution moins bon la progression est extrêmement rapide. En effet, généralement il n'existe aucun optotype mesurant l'acuité entre 20/200 et 20/100. Cette différence de progression n'est pas gênante dans l'évaluation de l'acuité de l'amétrope, car la correction amène une acuité élevée, ce qui permet de n'utiliser que la partie de l'échelle où la progression est lente.

Dans le cas d'une amblyopie organique, où le pouvoir de résolution est réduit et non améliorable, un taux de progression rapide pour les optotypes de l'échelle présente un inconvénient majeur et peut conduire à une évaluation erronée. En effet, si un handicapé visuel présente une acuité de 20/120 (6/36), en utilisant les échelles d'acuité conventionnelles notamment celles projetées, on constate que l'individu reconnaît l'optotype de 20/200 mais ne discrimine pas l'optotype de 20/100. Comme l'échelle d'acuité utilisée ne permet pas de mesurer entre ces deux valeurs, le clinicien, serait donc porté à croire que l'acuité visuelle de cet individu est 20/200. A ce moment là, il peut déclarer cet individu comme étant aveugle sur le plan légal. Une telle procédure en dépit de la bonne foi du clinicien, présente donc un caractère frauduleux. Le handicapé peut retirer des bénéfices secondaires de ce statut d'aveugle-légal, car si son champ visuel est intact son acuité lui permet sur le plan fonctionnel un rendement supérieur à celui de son statut légal. D'autre part cette procédure peut aussi présenter un caractère inique pour le patient qui reçoit alors l'étiquette d'aveugle-légal, tandis que son acuité lui permet sur le plan fonctionnel un autonomie que son statut ne le lui reconnaît généralement pas.

L'emploi avec un handicapé visuel d'une échelle d'optotype à progression rapide et ne présentant que peu d'optotypes de grande taille, amène rapidement à la limite de résolution. Le patient ne peut identifier qu'un ou deux optotypes de toute l'échelle. Il en résulte pour le handicapé un sentiment d'échec et de découragement (6). Les condi-

tions de mesures conventionnelles ont des répercussions psychologiques néfastes sur le handicapé.

L'évaluation de l'acuité visuelle en vision de près avec les échelles d'acuité habituelles s'avère difficile et généralement entachée d'erreurs. La variation de la taille des optotypes est insuffisante ou trop rapide, les optotypes ne sont pas toujours de taille assez grande. L'étalonnage de ces échelles ne permet pas une expression convenable de l'acuité visuelle au près, la notation de Jeager ou de Parinaud en sont des exemples, d'autant que ces échelles ne sont pas toutes identiques (7). Les échelles de Parinaud (8), ou celle de Snellen sont étalonnées pour une distance de lecture qui ne correspond pas à la distance où le handicapé se trouve être fonctionnel (6). Mesurée alors dans des conditions autres que celles prévues à l'étalonnage, l'acuité visuelle ne correspond plus à celle indiquée sur l'échelle. D'autre part, Jose et Atcherson ont montré (9) que les spécifications du fabricant en rapport avec le niveau d'acuité, ne correspondaient pas convenablement à la taille des optotypes.

PROCÉDURES D'ÉVALUATION

a) Mesure pour la vision de loin

La résolution d'optotype par le système visuel, n'est possible que si la taille de leur image rétinienne est suffisante. Comme le handicapé visuel présente un pouvoir de résolution réduit, il sera nécessaire d'agrandir ces images rétiniennes pour trouver sa limite de résolution.

Il est possible pour l'évaluation de l'acuité visuelle du handicapé, d'introduire un grossissement de l'image rétinienne par la distance relative (10). Pour cela il suffit de réduire la distance de mesure de 20 pieds (6 m) à 10 pieds (3 m) ou même moins, et d'utiliser une échelle d'acuité conventionnelle. Il suffit d'approcher l'échelle d'acuité vers le sujet, ou inversement. En réduisant la distance entre le sujet et les optotypes, on se trouve à grossir l'image rétinienne de ces derniers, ce qui permet d'utiliser la zone de l'échelle d'acuité où la progression entre les optotypes est lente. Une évaluation précise de l'acuité est alors possible. L'acuité s'exprime alors conformément à sa définition. Cette technique est économique car elle permet de conserver le matériel habituel et ne demande que le changement dans la distance de mesure. Toutefois une erreur due à un problème d'étalonnage peut apparaître (10) si à cause d'une salle d'examen trop courte, les optotypes de taille réduite sont projetées.

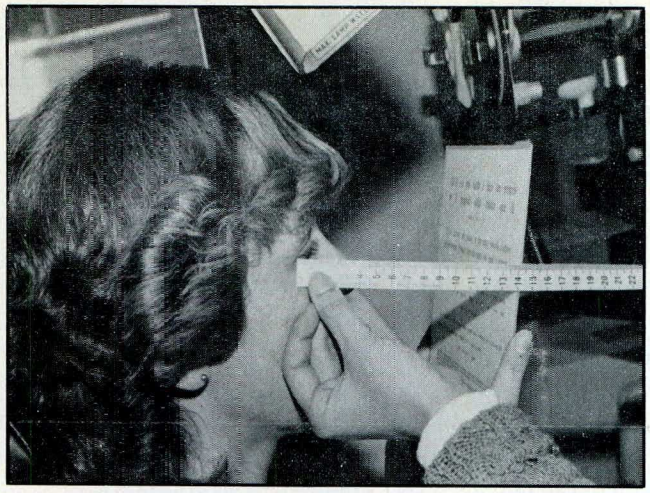
Il est possible aussi pour évaluer la limite de résolution du handicapé, d'introduire un grossissement par la taille relative (9). Il suffit de conserver la distance habituelle de mesure, soit 20 pieds ou 6 mètres, et d'utiliser des optotypes de grande taille, avec une progression lente dans leur variation. Il existe différentes échelles d'acuité construites sur ce principe qui permettent de déterminer avec précision l'acuité visuelle (12). La plus connue est l'échelle de Feinbloom, dont la distance d'étalonnage des optotypes varie de 700 à 20 pieds. La progression lente des optotypes permet de mesurer avec certitude des acuités comprises entre 20/225 et 20/100, car on compte 5 optotypes entre ces deux limites. Les échelles de Sloan et celle de Bailey-Lovie peuvent être aussi utilisées, car la progression logarithmique de leurs optotypes permet d'avoir entre 20/200 et 20/100, deux optotypes supplémentaires donnant des acuités de 20/160 et 20/125 pour une distance de 20 pieds. L'échelle de Bailey-Lovie a la particularité de présenter entre chaque optotype et chaque rangée d'optotypes un écart proportionnel à la taille des optotypes (13) d'autre part, chaque rangée d'optotypes comporte 5 optotypes, ce qui permet de conserver le même niveau de difficulté, quelle que soit la distance utilisée.

Il est possible aussi de combiner le grossissement par la distance relative et le grossissement par la taille relative. En effet, à l'exception de l'échelle de Bailey-Lovie dont l'encombrement est excessif, les échelles d'acuité spécifiques à la basse vision sont généralement en carton et peuvent être utilisées à des distances plus courtes que 20 pieds (6 m) (photo 1). Comme leur progression est lente, il est possible d'élaborer une stratégie de mesure qui débouche sur un succès et qui encourage le handicapé visuel: Il est bon d'utiliser ces échelles d'acuité à une distance de cinq pieds (1,5 m) ou dix pieds (3 m), et de commencer l'évaluation avec l'optotype le plus grand. Ceci permet l'identification d'un nombre relativement important d'optotypes avant que l'individu n'atteigne sa limite de résolution. Cette procédure amène pour le handicapé visuel une prise de conscience de sa vision extrêmement importante dans sa réadaptation future. L'aspect psychologique de cette mesure est d'une importance capitale au cours de l'examen en basse vision.

Si la distance de mesure est inférieure à 20 pieds, l'acuité visuelle s'exprime suivant la notation de Snellen, le numérateur de la fraction

Il est possible de combiner l'utilisation d'une échelle d'acuité spécifique à la basse vision (grossissement par la taille relative), avec une réduction de la distance de mesure (grossissement par la distance relative) afin d'obtenir une évaluation précise de l'acuité.

Une échelle d'acuité pour la vision de près doit comporter des optotypes de taille suffisante, et une progression lente pour être utilisée à diverses distances, ou pour qu'un nombre important d'optotype soit identifié.



Mesure clinique de la distance de lecture.

Tableau I

Terminologie pour les déficiences de l'acuité visuelle

Catégorie selon l'OMS	Degré de déficience	Acuité visuelle (avec la meilleure correction possible)	Synonyme ou autres définitions
Vision normale	aucune	0.8 ou mieux $^{20}/_{25}$, $^{6}/_{7}$, 5 $^{5}/_{6}$ ou mieux	intervalle de vision normale
	légère	moins que 0.8 inférieur à $^{20}/_{25}$, $^{6}/_{7}$,5 ou $^{5}/_{6}$	vision presque normale
Basse vision	modérée	moins que 0.3 inférieur à $^{20}/_{70}$, $^{20}/_{80}$ ou à $^{6}/_{18}$, $^{6}/_{20}$ ou à $^{5}/_{15}$	basse vision modérée
	Sévère	moins que 0.12 inférieur à $^{20}/_{160}$, $^{6}/_{48}$, $^{5}/_{40}$, inférieur à 0,1, $^{20}/_{200}$, $^{6}/_{60}$, $^{5}/_{50}$.	basse vision sévère aveugle-légal
Cécité	profonde	moins que 0.05 inférieur à $^{20}/_{400}$, $^{3}/_{60}$, $^{5}/_{100}$	basse vision profonde cécité modérée
	presque totale	moins que 0.02 inférieur ou égal à $^{3}/_{200}$, $^{1}/_{60}$, $^{5}/_{300}$	cécité sévère ou presque totale
	totale	aucune perception lumineuse	cécité totale

représente la distance de mesure. Il est souvent tentant de transformer l'acuité visuelle mesurée à 5 pieds ou à 10 pieds et de l'indiquer suivant l'expression traditionnelle à 20 pieds. Ceci est possible sur le plan théorique, mais un sujet dont l'acuité serait 5/40 n'aurait pas forcément à 20 pieds une acuité de 20/160, car certains facteurs, tel que le type de pathologie, interviennent; par exemple ce type de transformation théorique ne serait pas forcément valable en cas de perte de transparence des milieux ou de la cornée.

b) Mesure pour la vision de près

La mesure en vision de près présente en basse vision un intérêt fonctionnel. C'est au cours de cette évaluation de l'acuité visuelle qu'il sera possible de déterminer à quelle distance un sujet peut discriminer un optotype ou un caractère de taille donnée, et inversement, il sera possible à savoir quelle grandeur d'optotype ou de caractère un sujet peut distinguer à une distance de manipulation connue d'avance. Cette information est importante sur le plan fonctionnel en vue de la réadaptation, car les besoins des handicapés se situent généralement en vision de près.

Tableau 2

Etalonnage en système M de l'échelle de lecture de Keeler Série A

Identification des optotypes sur l'échelle	Hauteur de l'optotype (mm)	Equivalence en système M
A 7 (caractère de journal)	1,5	1,03 M
A 9	2,1	1,44 M
A 10	2,3	1,58 M
A 11	3,4	2,34 M
A 12	4,55	3,12 M
A 13	6,35	4,37 M
A 14	7,80	5,36 M
A 15	8,60	5,91 M

Mesures effectuées sur la lettre "e" avec un télescope Walters 8 × 30, comportant un réticule gradué au 1/10 de mm, et une bonnette de +15 d

Les échelles d'acuité pour la vision de près doivent avoir aussi une progression lente dans la variation de la taille des optotypes. Un intervalle important dans la variation permet d'obtenir des optotypes de grosse taille, pouvant être reconnu à une quarantaine de centimètres, (photo 2) et permettant avec une distance de lecture plus courte la reconnaissance d'un bon nombre d'optotypes. Pour donner une expression précise et physiologique de l'acuité visuelle au près, il est nécessaire que l'étalonnage des échelles d'acuité permette la notation de Snellen. Pour cela l'optotype doit être identifié par la distance à laquelle il soustend un angle de 5 minutes d'arc. La distance est exprimée en mètre. Ce système d'étalonnage des optotypes, appelé système M, a été proposé par Sloan et Brown (14), il s'avère simple et pratique pour exprimer l'acuité: il suffit de mesurer la distance de lecture (photo 3), de l'indiquer en mètre, et d'identifier la grandeur de l'optotype reconnu. Le rapport entre les 2 distances représente l'acuité visuelle en vision de près. Ainsi un optotype étalonné 4 M, identifié à 20 cm (0,2 m), correspond à une acuité en vision de près de 0.2/4. La transformation de cette acuité suivant l'expression traditionnelle à 20 pieds (6 m), dans ce cas 20/400, n'est valable que sur le plan théorique.

Il est nécessaire d'établir une distinction entre les échelles d'acuité, composées d'optotypes séparés, c'est le cas de l'échelle du New York Lighthouse (photo 2), et les échelles de lecture comportant des mots et des phrases (échelles de Keeler ou éventuellement de Parinaud). Avec l'usage de ces dernières il est possible d'évaluer les capacités de lecture en faisant appel à d'autres paramètres que l'acuité visuelle seule. En effet, le champ visuel, les mouvements oculaires, la perception, la mémoire et la compréhension, entrent en ligne de compte dans la lecture. Il est intéressant sur le plan clinique de noter les disparités qui existeraient entre l'acuité visuelle au près et les capacités de lecture. Les échelles de lecture ne sont pas étalonnées suivant le système M à l'exception de celle de Bailey-Lovie (15) qui n'existe qu'en englais. Il est nécessaire d'utiliser les équivalences indiquées au tableau 2.

LES CONDITIONS D'ILLUMINATION

Genensky (6) constate que les handicapés visuels préfèrent, dans la majorité des cas, lire et écrire avec un éclairement lumineux de l'ordre de 1 000 lux, alors qu'un tel niveau d'éclairage ne se retrouve généralement pas au cours de l'évaluation de l'acuité visuelle. L'éclairage ambiant fait varier la taille de la pupille des sujets et influence leur pouvoir de résolution. Les opacités centrales de la cornée, ou au niveau du cristallin, les opacités nucléaires, polaires ou capsulaires nécessitent un faible éclairage ambiant, de même que pour des cas d'aniridie, d'albinisme ou de colobome de l'iris.

Le comité sur la vision du National Academy of Sciences and National Research Council a établi que les optotypes des échelles d'acuité doivent être noirs sur fond blanc, et que la luminance de ce fond doit être de l'ordre de 85 ± 5 cd/m^2 (16). Ce comité estime toutefois que dans certains cas de pathologie oculaire, il est nécessaire de faire varier la luminance du fond afin d'obtenir des informations supplémentaires sur le fonctionnement du système visuel. Sloan et ses collaborateurs (17) ont montré que certaines atteintes maculaires et notamment la dégénérescence maculaire sénile nécessitaient un accroissement de la luminance pour une meilleure discrimination. Dans certains cas l'acuité peut être 5 fois meilleure. On note aussi le même phénomène mais à un degré moindre avec les pertes diffuses de transparence au niveau de la cornée. Au contraire, les cas d'achromatopsie présentent une amélioration d'acuité lorsque la luminance est faible (18).

La modification de la luminance des échelles d'acuité selon la condition du sujet, favorise à nouveau l'utilisation d'une échelle d'acuité mobile pouvant être éclairée par une source secondaire. Une telle modification n'est pas possible avec la majorité des projecteurs de tests, car la luminance reste toujours constante. L'optométriste doit donc au

cours de l'évaluation de l'acuité visuelle prendre soins de faire varier le niveau de luminance de l'échelle d'acuité, et de s'enquérir à l'histoire de cas quelles sont les conditions de fonctionnement les plus favorables.

Conclusion

L'optométriste doit évaluer avec précision l'acuité visuelle chez le handicapé. Il peut conserver les techniques habituelles à condition de les adapter à l'handicapé notamment en réduisant la distance entre le sujet et les optotypes afin d'obtenir une évaluation précise. Il lui est aussi possible pour un coût relativement modeste d'acquérir les échelles d'acuité de vision de loin et de vision de près permettant une évaluation raffinée de l'acuité visuelle quelque soit la distance de manipulation courante.

Ainsi l'optométriste est en mesure, à travers sa pratique courante, de remplir son rôle de professionnel de première ligne dans le domaine de la santé.

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Felicitations aux Nouveaux Docteurs de la Promotion de l'École d'Optométrie de l'Université de Montréal, 1981.

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Radical Retinoscopy In The Low Vision Examination: A Case Report

J. Graham Strong*

Abstract

The case of a 31 year old low vision patient is reported. A review of her ocular status is made in this presentation. Although conventional retinoscopy is impossible, radical retinoscopy provides a reasonably accurate refraction. Spectacle correction of this hitherto undetected refraction provides the basis for successful low vision therapy.

Abrégé

Ce travail trait du statut oculaire d'une handicappée visuelle de 31 ans. La skiascopie conventionnelle étant impossible on a eu recours à la skiascopie radicale pour obtenir la réfraction. Une correction par lunettes de cet état de refraction jusqu'alors ensoupçonné a permet une thérapie satisfaisante de basse vision.

Radical retinoscopy is an often overlooked adjunct to routine static retinoscopy. Conventional retinoscopic observations are made along the primary line of sight from a standard working distance of 66 cm and compensated for by a retinoscopy lens of +1.50 D. By definition, radical retinoscopy is a technique where the "working distance is reduced until a recognizable reflex is seen"[1] This reduced working distance which may be closer than 10 cm, is compensated for by a corresponding increase in the magnitude of the retinoscopy lens.

Maier[2] has suggested that this technique be attempted in those cases where "routine retinoscopy is not possible due to the following:

a) Keratonconus
b) Large central opacities of the cornea
c) Highly irregular corneal curvatures resulting from scar tissue formation after disease, trauma, pterygia, or foreign bodies
d) Cataract of sufficient density to prevent observation of the reflex from usual working distances
e) Other anomalous conditions of the media"

Although this technique causes a shortening of the range of neutrality with an increased likelihood of miscalculation,[3] it does provide a reasonable objective measurement of refraction in those low vision cases where conventional retinoscopy is impossible.

The following case report illustrates the potential merit of 'radical retinoscopy' as a procedure in low vision work.

HISTORY: Mrs. E.M. is a 31 year old physiotherapist. Registered with the CNIB since she was 3 months old, her ocular problems have been attributed to an embryopathic 'viral' infection in the very early days or weeks of her prenatal period. There is no family history of blindness. There is no history of surgical intervention in her case. Her primary and secondary school education was received at a school for the blind after the third grade. Until that time she had functioned in a normal classroom situation. She is presently employed in a hospital where she is somewhat disadvantaged by her inability to read typewritten patient files and records. She had heard of our clinic through the CNIB and wanted to know if any aids were available to help her with this reading problem.

She demonstrates a high degree of mobility, having independently travelled to and from our low vision clinic by bus.

CLINICAL FINDINGS: Visual acuities were found to be 5/350 for the right eye and 3/300 for the left eye. At 40 cm, acuities of 20M and 32M respectively were recorded. Microphthalmia was evident with marked nystagmus and a constant left esotropia.

There is, in the right eye, hypoplasia of the iris, with lens and iris remnants being adherent to the posterior temporal surface of the cornea. A leukoma has formed in this broad anterior synechia three mm from the centre of the cornea. The cornea itself is small, measuring 8 mm in diameter and there are several areas of scleralization (Fig 1)

The limited degree of vision is afforded by a vertical opening in the nasal iris measuring 1.5 mm in width and 4 mm in height (Fig 2) Ophthalmoscopy through this 'pupil' revealed normal peripheral fundus. No central fundus details could be visualized even with monocular indirect ophthalmoscopy.

The left eye demonstrates severe malformation with much of the cornea obscured by scarring and scleralization particularly in the inferotemporal quadrant. No retinal reflex was visible and the eye exhibits signs of incomplete development.

Applanation pressures were not possible because of the rapid nystagmus. Intraocular tension was felt to be normal to palpation and no corneal edema was recognized in the right eye. The left cornea is edematous but this may be related to endothelial decompensation rather than an elevated intraocular pressure.

These clinical findings were consistent with a diagnosis of em-

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bryopathy resulting from prenatal rubella infection. [4,5,6]

Because of the nystagmoid movements and the eccentricity of fixation, keratometry was somewhat unreliable. Averaging several successful readings for the right eye gave the following: OD 45.12 @ 180 46.37 @ 90. No reliable readings could be made for the left eye. Radical retinoscopy (10 cm working distance) obliquely through the tear in the iris gave a gross value of +22.00 −1.50 axis 180, which yielded a net Rx of +12.00 −1.50 axis 180. Subjective testing using a 10 foot target distance refined this to a best subjective prescription of +10.00 −1.00 axis 180.

This was found to improve the acuity to 10/350 and was prescribed in lenticular form. Because of the optical asymmetry of the viewing situation, a monocular PD was determined by widening and narrowing the centration of the trial lenses to first perceptible blur points and then selecting the midpoint. No subjective advantage was found with similar correction to the left eye.

On delivery of the spectacles nearpoint capabilities were assessed. It was interesting to note that no subjective distance improvement could be elicited with telescopic aids fitted over the distance Rx. This non-response to telescopic correction may be attributable to the gross eccentricity and deformity of the anatomical pupil. Nystagmus and probable field defects further compromise successful telescopic correction for this patient.

At near, a 10 times power loupe was found to improve the nearpoint discrimination to 2M. A 15 times power loupe with a built-in light source further increased the acuity to 1M. This acuity was repeated with a 15 times power focusable loupe. Although the patient found this loupe to be optically superior, proper illumination was critical for it to be maximally effective. The 20 times power loupe was found to give no further acuity improvement.

The patient was next presented with normal sized typewritten pages

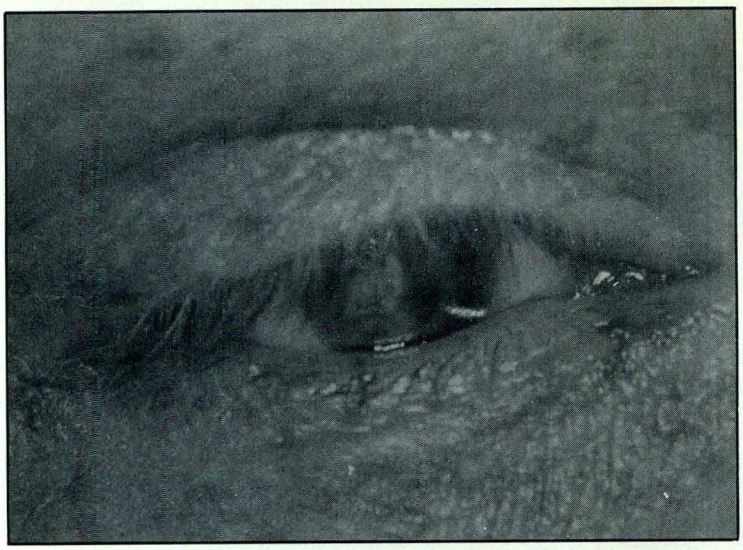

Figure 1:
Microphthalmia with areas of scleralization evident in the right eye. Conventional retinoscopy is impossible for this eye with no pupil visible.

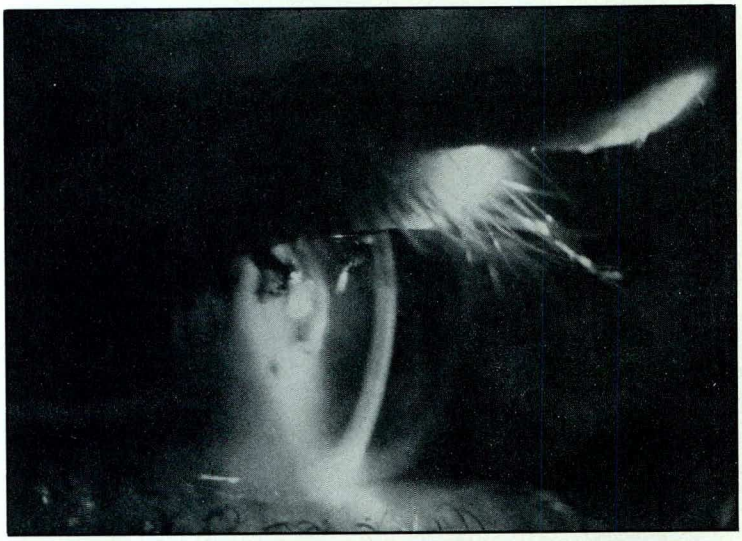

Figure 2:
Biomicroscopic view of pupil which is just visible to the right of the corneal section.
Off axis radical retinoscopy was performed through this pupil.

to simulate her intended use of the aid. She was able to read these with reasonable facility considering her unfamiliarity with reading tasks and the mechanical and optical constrictions of the reading aids. On the basis of this demonstrated proficiency, both 15 times power loupes were prescribed. It was pointed out to her that the focusable loupe would be useful at home where she could arrange appropriate illumination.

FOLLOWUP: One month after the dispensing of these various aids, Mrs. E.M. was contacted by telephone. She is wearing her correction constantly except when she works in the kitchen where she prefers to leave her glasses off. She uses her focusable loupe successfully at home for scrutinizing her bills and for periodic reading tasks.

She plans to use her illuminated

magnifier when she goes back to work at the hospital.

Subsequent conversations with the patient confirm that she is now able to better perform her duties as physiotherapist with her newfound reading ability using her illuminated loupe.

DISCUSSION: This case illustrates the success that can be achieved with an intelligent and motivated patient in spite of an insurmountable loss of acuity. It also demonstrates the importance of radical retinoscopy in low vision work.

Virtually no fundus reflex could be observed with conventional static retinoscopy. Radical retinoscopy proved to be the only method for detecting the pupil and for objectively measuring the refraction. Previous assessments by other practitioners since the age of six months seem to have overlooked this possibility for determining her refractive condition. Ultimately this refraction provided the basis for resolving her visual acuity goals using conventional low vision aids.

COMMENT: In conversation with other low vision practitioners, my experience coincides with theirs in that radical retinoscopy is an invaluable technique prior to many low vision workups.

Acknowledgement

I thank Arnold Eitutis, Senior Intern at the School of Optometry Clinic, for his assistance with this case, Professor T.D. Williams for photographing this patient, and Professor George Woo for his critical reading of this report.

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Reflections from the Retinal Surface:
Some Clinical Implications.

T. David Williams*

Abstract

Abnormalities ahead of, within, and behind the retina may alter the manner in which light is reflected from the retinal surface during ophthalmoscopy.

Abrégé

Des anomalies anterieures, interieures et posterieures à la retine peuvent modifier la façon que la lumière reflette de la surface de la retine durant une ophtalmascopie.

Normal Reflections

1. Retinal sheen in younger patients

In younger patients, an overall sheen gives the retina a 'wet look'. Fresnel's law of reflection states that the proportion of light reflected from a surface varies directly with the difference in refractive index on either side of the surface. The healthy young retina would have an index higher than the vitreous, so there would be considerable reflection of light at the retina/vitreous interface. An alternate (or additional) theory for disappearance of the foveal reflex with age has been offered by Millodot and O'Leary[1]: they suggest that the index difference between retina and vitreous is reduced due to an increase in the refractive index of the vitreous with age.

2. Effects of Aging

Retinal reflections are decreasingly observed with age: it is likely that there is some overall loosening of the retinal structure with the accumulation of some extra fluid in the retina. In addition, this may explain the well-known disappearance of the foveal reflex with age.

3. Normal retinal depression: the fovea centralis

Indirect ophthalmoscope views of the young retina almost invariably include a circular reflection from the thickest portion of the retina (see Figs. 1 and 2), where the convex retinal surface causes a distinct reflex, similar to the reflex seen running along the central retinal vessels. This reflection may also be seen during direct ophthalmoscopy, although usually only one portion at a time, due to the smaller field of view. The retinal thickness is 370 microns at the beginning of the retinal downslope of the fovea centralis, while the thickness at the foveal pit is 130

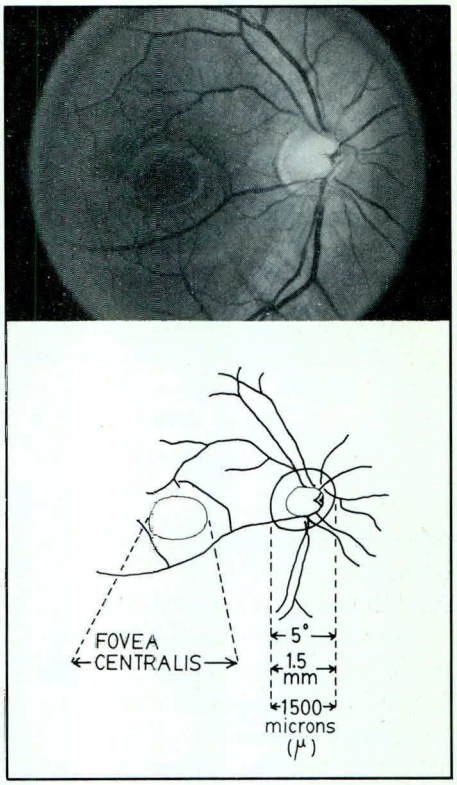

Fig. 1
Right eye of healthy male, aged 20 years. Note circular reflex from rim of fovea centralis. Sketch below shows location of circular reflex and some dimensions for comparison with Fig. 2.

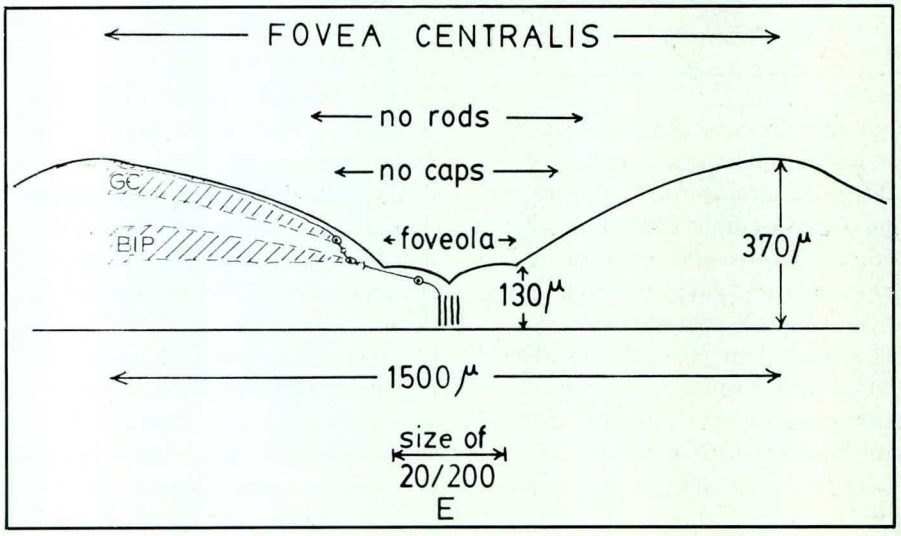

Fig. 2
Schematic cross section of retina through center of foveola. Thickness of retina at rim of fovea centralis is 370 microns and at foveola is 130 microns. Rod-free and capillary-free areas are also marked, as is linear size of retinal image of 20/200 E.

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microns; thus there is a retinal depression of 240 microns (nearly ¼ mm) here. In healthy young eyes, the circular reflection will have a diameter equal to that of the nerve head. There is usually little reflection from the downward slope of the retina. The pit of the foveola provides the foveal reflex.

Abnormal Reflections

1. Effects of retinal edema

The presence of edema fluid would lower the index of refraction of the retina, thus decreasing the amount of light reflected in the edematous area. In Fig. 3, considerable retinal sheen is noted everywhere but in the fovea centralis area. This young black patient has a reduced acuity (20/50) in this eye due to recent head injuries. It appears that the loss of retinal reflection in this case relates to the presence of edema fluid within the retina.

Fig. 3
Left eye of black male, aged 9, who had recently received a blunt injury to the left side of the head. Note considerable retinal sheen in most areas, but not in disturbed fovea centralis area.

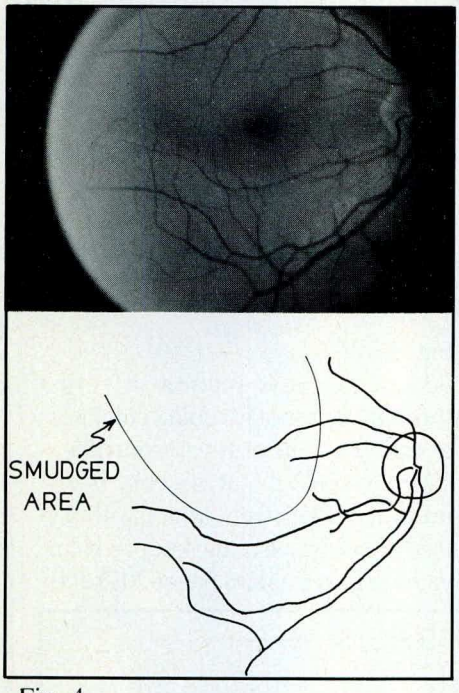

Fig. 4
Right eye of woman aged 41. Gradually decreasing acuity noted by patient for several months. Acuity at time of photography 20/200. Amsler grid distortions were pronounced, photostress test gave recovery time of 1 minute 58 seconds (normally this is less than 60 seconds). The central serous retinopathy resolved spontaneously. VA during recheck 4 years later was 20/20 in this eye, with .75 D less plus than at the initial visit.

2. Central Serous Retinopathy

The presence of edema fluid between the receptor outer segments and the retinal pigment epithelium causes an alteration in both the retinal level and retinal reflectance. The elevation of the retina has been shown to cause a shift toward hyperopia in such cases. It appears that some of this edema fluid must also enter the retina proper, because the affected retina usually appears rather dull or smudged (see Fig. 4): it does not reflect light in the same manner as the surrounding retina.

3. Abnormal Retinal Depressions

(a) Sickle Cell Anemia

Goldbaum[2] has recently described a group of patients, mostly under the age of 30, who suffered death of small portions of the retina due to sickle cell anemia (clumps of deformed red blood cells obstructed the arterial supply to small portions of the retina). Initially, cotton-wool spots were observed in the dying retinal areas; however, 4 months later it was possible to note retinal depressions in the damaged areas. The loss of retinal substance caused a shallow cavity to develop in the retina, which behaved similarly to the fovea centralis depression shown in Fig. 1: the outer edges of the cavity tended to be relatively bright, while the interior of the cavity appeared dark (with the occasional reflection from the concave floor of the depression in some cases).

(b) Retinitis pigmentosa

Figs. 5 and 6 are fundus photographs of a 12 year old female with RP. Visual acuities are 20/25 OU and color vision is normal; however, clinical dark adaptometry shows a range of 1.5 log units, as compared to a normal of over 4.0 log units. The posterior pole shows no clumps of pigment (these are confined to the mid-periphery). The arterioles do not appear particulary narrowed. The chief ophthalmoscopic anomalies in the posterior pole consist of an orangy-yellow irregular 'rippled' surface sheen in the macular area and a circular reflex which is 2½ times the diameter of the nerve head. The normal circular reflex (see Fig. 1) should be the same size as the nerve head. I propose the following explanation for this widened circular reflex: considerable portions of the posterior retina have be-

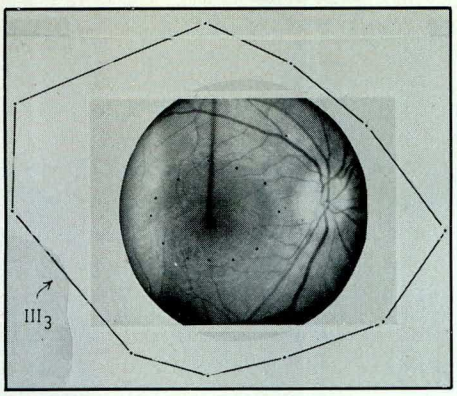

Fig. 5
Right eye of young white female aged 12. Note enormous circular reflex and unusual rippled appearance of retinal surface reflections within circular reflex. Goldmann I_2 isopter is shown as black dots, which are seen to lie just inside or close to the circular reflex. The patient has retinitis pigmentosa.

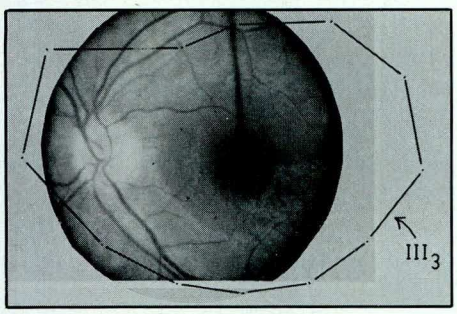

Fig. 6
Left eye of patient shown in Fig. 5. Similar appearances to those noted in Fig. 5.

come atrophic, with a resultant depression of the retinal level, so that the extent of the 'dished out' retina is now 2½ times its normal size. The visual fields of this patient (Figs. 7 and 8) show a marked constriction of the standard I_2 Goldmann isopter (this isopter is equivalent to a 1/1000 W tangent screen isopter). When the field test results are superimposed on the fundus photographs (dots in Figs. 5 and 6 represent the I_2 isopter), it is interesting to note that the points of the I_2 isopter correspond approximately to the beginning of the retinal downslope. Visual field testing for this patient reveals that the retina within 5 degrees of the foveola is still functional, even though ophthalmoscopy shows evidence of a considerable thinning of the retina in this area.

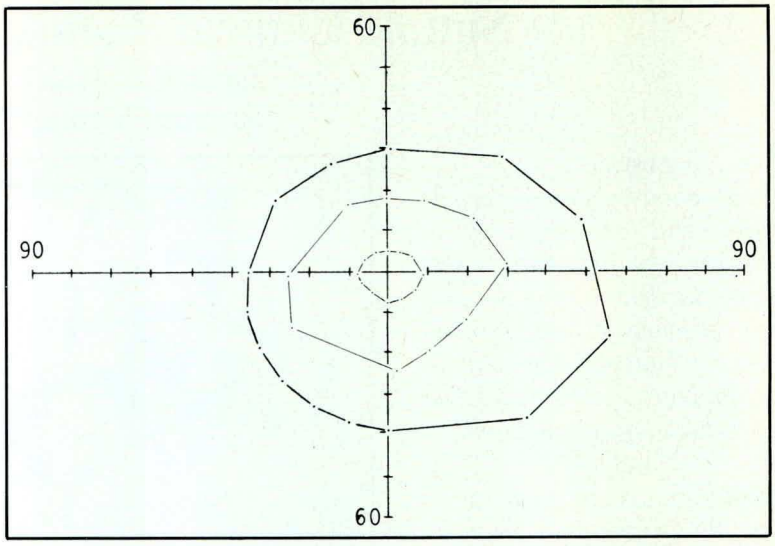

Fig. 7
Perimetry results for right eye of patient shown in Figs. 5 and 6. Innermost isopter is for standard stimulus I_2, middle isopter for much larger and brighter stimulus III_3. For comparison, the I_2 isopter for a normal 20 year old is included (outermost isopter).

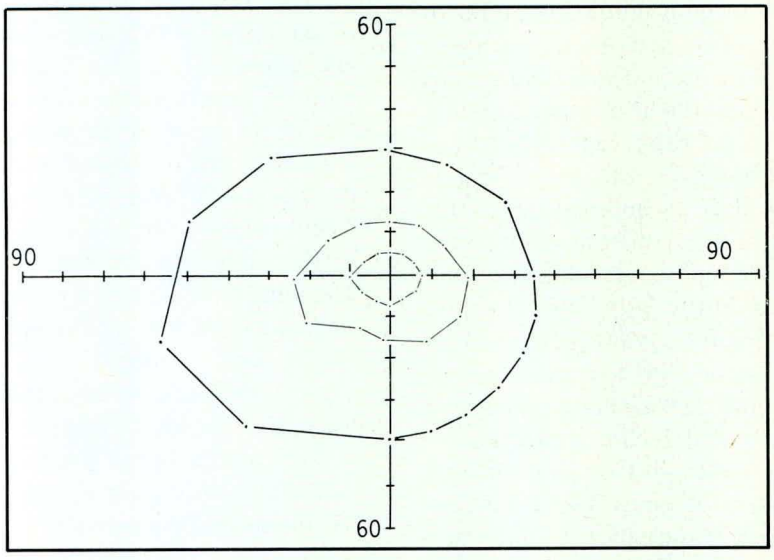

Fig. 8
Left eye perimetry results for patient shown in Figs. 5 and 6. Details given in caption of Fig. 7

The orangy-yellow surface reflections which appear within the widened circular reflex are due to gliosis: when retinal tissue is lost, glial tissue proliferates, frequently on the retinal surface.

Attention to the reflective characteristics of the retinal surface can provide useful additional information about the health of the retina.

Acknowledgement:
Dr. E.M. Fretz referred the patient shown in Figs. 5, 8

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Simple Clinical Photokeratoscopy

Jacob G. Sivak†
Graham Strong*

Abstract

A simple photokeratoscope can be clinically useful for the quantification of corneal configuration in keratoconus, for determining the presence or absence of large corneal cylinders in infants and non-communicative patients and for recording post-operative corneal topography.

Abrégé

Un photokératoscope peut servir dans un environnement clinique pour évaluer quantitivement la configuration de la cornée dans des cas de keratocône; pour déterminer la présence ou non d'un astigmatisme cornéen outré chez les bébés ou les personnes incapables de communiquer; pour conserver un record de la topograhie cornéene post chirurgicale.

Gullstrand is credited with introducing the technique of photokeratoscopy in 1896 (1). Numerous developments and improvements have been reported since then. These include: the use of hemispherical or cyclindrical target surfaces, flash photography, stereophotography, autocollimation and the telecentric stop (2-6). Despite the obvious advantages, such as providing an objective record of corneal topography, photokeratoscopy is rarely used in clinical practice.

The Wesley-Jessen System 2000 photokeratoscope (7) and the Corneascope (International Diagnostic Instruments) appear to be the only commercially available photokeratoscopes. Both are relatively expensive and cumbersome instruments used as aids in the fitting of contact lenses.

The Keeler-Klein keratoscope is a commercially available self-luminous Placido disc. The simple photokeratoscope described here (Fig. 1) consists of the head of a Keeler-Klein keratoscope mounted on a single lens reflex camera (8). This is accomplished with a simple adapter and a camera filter ring. The normal battery powered illumination system of the keratoscope is used for alignment and focussing while the photograph is taken with a regular electronic flash, the surface of which is covered with a removable baffle. The light flash is carried to the keratoscope head with a fiber optic cable, one end of which is inserted into a hole in the baffle and the other into the side of the keratoscope.

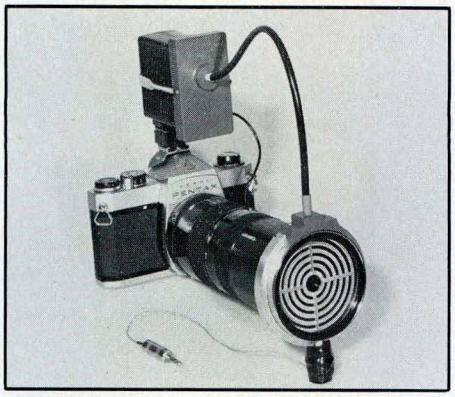

Fig. 1. Photography of a simple photokeratoscope consisting of the head of a Keeler-Klein keratoscope mounted on a macro lens. The photograph is taken with an electronic flash which is carried to the keratoscope head by means of a fibre optic cable.

The camera optics used can be varied depending on available attachments and the extent of corneal coverage desired. Limbus to limbus coverage is not absolutely necessary. A regular 50 mm lens and bellows or a 100 mm macro lens are adequate to account for the topography of the central 30-40% of the cornea; sufficient to cover the entrance pupil of the eye in photopic and most mesopic conditions. Regular high speed film such as Kodak Tri-X is adequate.

The simple photokeratoscopic described here was originally developed for research in animal vision. A simple, easy to use, and compact instrument was needed to measure corneal curvature of the eyes of various animals (Fig. 1). Corneal radius of curvature was estimated by comparison with photographs of spheres of known diameter. While an instrument of this nature cannot compete with the accuracy of sophisticated photokeratoscopes, the examples which follow will demonstrate a number of clinical uses.

Because of mire distortion as well as corneal steepening beyond the range of keratometers, most practitioners must guess at the severity of keratoconus by visual inspection of the corneal profile. Figures 2 and 3 are photokeratogrammes of a patient with one keratoconic and one normal cornea. Aside from the evident distortion at the apex of the keratoconic cornea, the keratoscope rings are approximately one-half the diameter of those reflected by the normal (42.00 D) cornea. Thus the refractive contribution of the abnormal cornea is approximately twice as much (80 D) as it should be.

Fig. 2. Photokeratogramme of a keratoconic cornea.

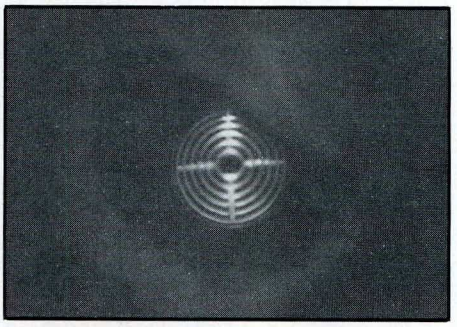

Fig. 3. Photokeratogramme of a normal cornea from the same patient as figure 2.

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School of Optometry,
Univesity of Waterloo

The following pair of figures (4 and 5) are photographs of reflections from the corneas of a young mentally retarded patient with nystagmus. Keratometry was not possible in this case. The right cornea (Fig. 3) appears to be normal although a relatively small (1.5-2.0 D) amount of corneal astigmatism is indicated along an axis of 105°. The photokeratogramme of the left eye

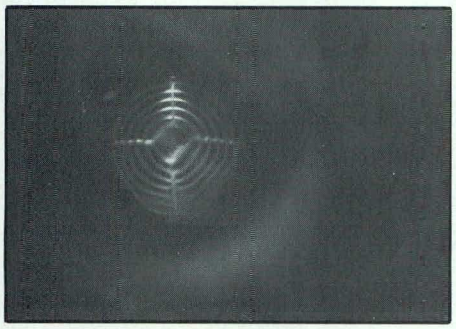

Fig. 4. Photokeratogramme of the right eye of a young mentally retarded patient indicating corneal distortion.

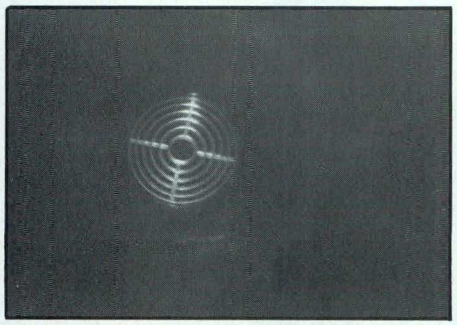

Fig. 5. Left cornea of the same patient as figure 4. A small cylinder (approx. 1.5D) is indicated at 105°.

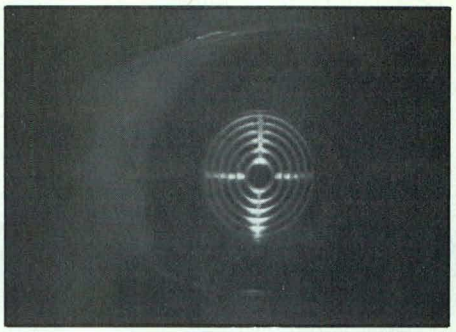

Fig. 6. Cornea following intra-ocular lens transplant surgery. A 4 D against the rule cylinder is indicated.

indicates that the central cornea is severely distorted (Fig. 4).

Figure 6 is a photograph of keratoscope rings reflected by the cornea of a patient who has had an intraocular lens implant. An against-the-rule cylinder of 4.00 D is indicated. The final figure (7) highlights a peripheral corneal depression caused by a chemical burn. Attempts to stain this area with fluorescein for biomicroscopy were unsuccessful.

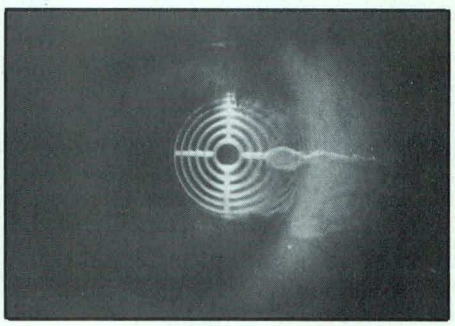

Fig. 7. Photograph from a cornea with a peripheral chemical burn.

In summary, a simple photokeratoscope can be a valuable instrument for the quantification of corneal configuration in keratoconus, for determining the presence or absence of large amounts of corneal astigmatism in infants and non-communicative patients, and for recording post-operative corneal topography. It has been particularly useful in the Low Vision Clinic at the University of Waterloo.

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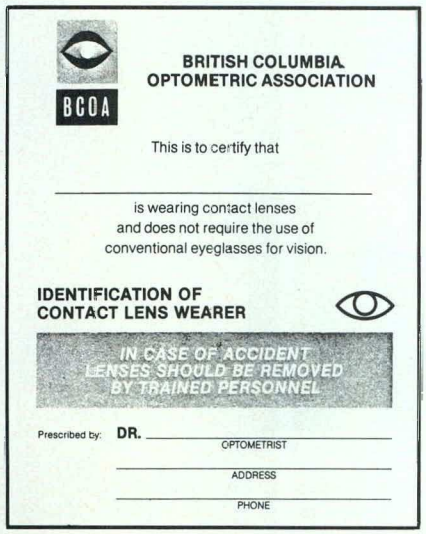
B.C.O.A. Contact Lens Wearer's I.D. Card



The British Columbia Optometric Association has recently produced a Contact Lens Wearer's I.D. Card.

Designed for use in the industrial environment, the card (both front and back are shown at left) is being promoted by the B.C.O.A. to the Workers' Compensation Board in that province.

Tom Little, Program Director for the B.C.O.A., referred specifically to the distinctive red alert logo (to the right of the words "Contact Lens Wearer") as the focal point of B.C.'s present promotion of the card. "The potential exists," he said, "for a valuable symbol to be used nationally."

Among the uses being advocated by the B.C.O.A. is the symbol's development as a decal for construction hard hats.

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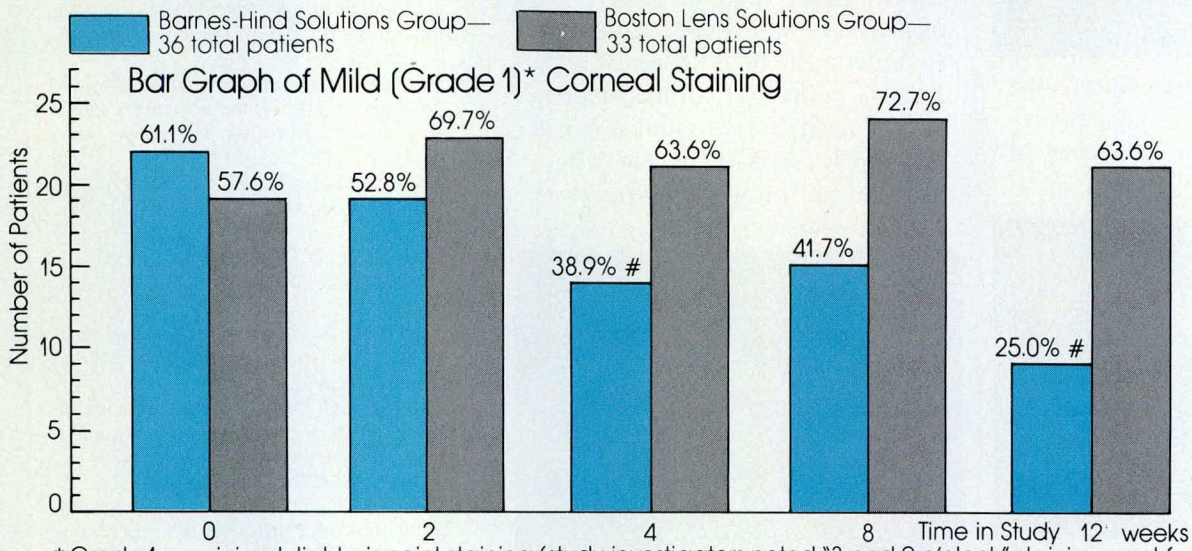

* Grade 1 = minimal, light pinpoint staining (study investigators noted "3 and 9 o'clock" staining most frequently)

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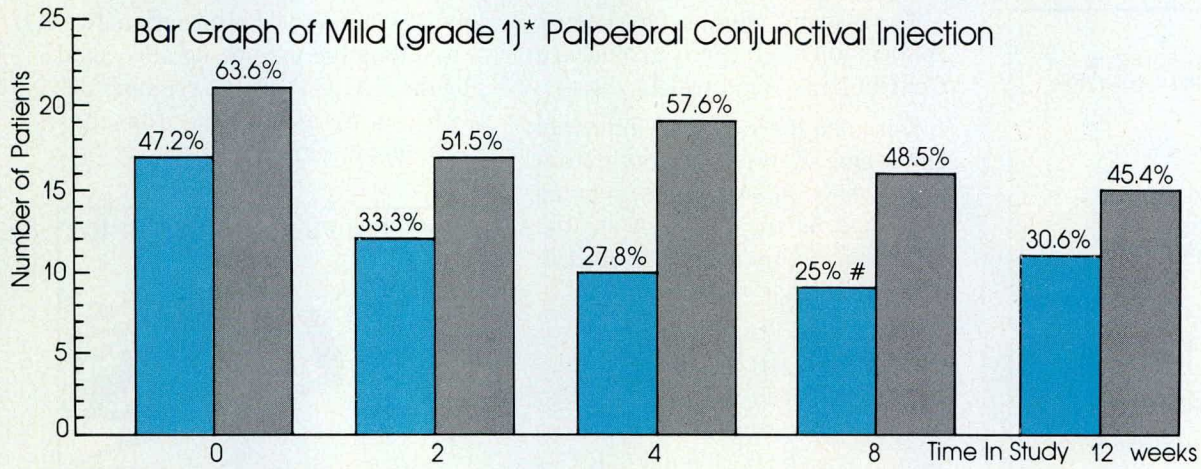

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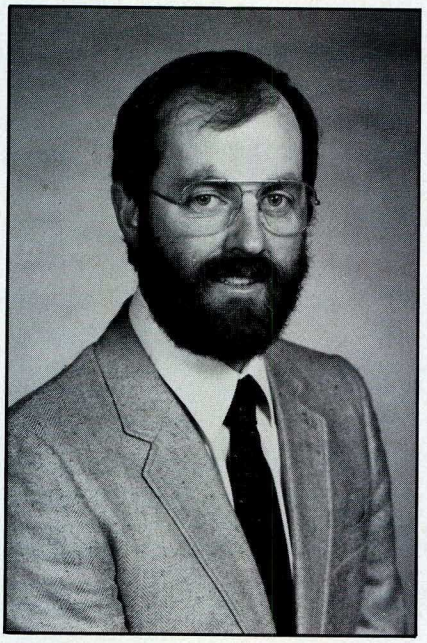
CAO ANNUAL REPORT 1981

The Canadian Association of Optometrists is administratively structured as a federation of the ten provincial optometric associations of Canada. Our programs are designed to ensure that through a collective voice the conditions under which you currently earn your livelihood are not subject to arbitrary change by outside influences. CAO strives for the continuing advancement of the profession in all aspects of primary vision care by achieving the following organizational objectives:

1. We act as the recognized voice of Canadian optometry in areas of activity that are within the scope of federal jurisdiction.
2. We coordinate the activities of each provincial association in order to achieve an interprovincial understanding of the status of optometry.
3. We expand interprofessional relations between all allied health professions.
4. We identify and meet optometric manpower needs.
5. We increase public and government awareness of the need for the services provided by the optometrist.
6. We continually improve the science of optometry and the level of vision care to the Canadian public.
7. We promote the continuing education of the membership.
8. We encourage the active participation by optometrists in organizations dedicated to promotion of public health and the conservation of vision.

Please review each of the following activity summaries bearing in mind that your dues payments combined with the voluntary efforts of over 100 optometrists from each part of Canada have been focused on the work being described.

CAO continues to serve Canadian Optometry as it now moves into its 35th year representing the interests of the profession and your provincial optometric association. This report underscores the many activities undertaken by your national association on your behalf in order to maintain and protect your role as the primary vision care provider in Canada.



Dr. J.A.R. MacDuff

Developed by Alex Saunders, CAO Public Information Coordinator.

CAO Council

During the CAO Council meeting in Ottawa on October 24-26, Councillors chose their executive members for the year October 1981 to October 1982. Dr. Reid MacDuff of Gander assumes the President's position. Dr. Hervé Landry of Moncton becomes Past-President and New Brunswick councillor, Dr. Roland desGroseilliers of Ottawa is now Vice-President. Dr. Richard Watts of Calgary who was to assume the position of Secretary-Treasurer regretfully had to withdraw his candidacy due to other commitments and his work with the National Advisory Committee. Dr. Scott Brisbin, also of Calgary, will replace Dr. Watts as Alberta councillor. Dr. James Patriquin of Cornerbrook, is the Newfoundland councillor during Dr. MacDuff's presidency. Dr. James Kreuger of Saskatoon replaces Dr. Jack Huber of Regina as Saskatchewan's councillor after his many years of service to CAO in his various roles as councillor, executive officer and CAO Past-President. Dr. Ray Corbin relinquishes his temporary seat on Council held during Dr. Landry's term of office. Dr. Norman Armstrong, after many years of service as British Columbia's representative to CAO, has withdrawn from Council and is replaced by Dr. Rix Graham of Vancouver. Also, after several years service, Dr. Gregory Beer of PEI has withdrawn from Council and is replaced by Dr. Richard Zenner. The remaining councillors are Dr. Bruce Rosner of Manitoba and Dr. Ralph Rosere from Nova Scotia.

THE CANADIAN ASSOCIATION OF OPTOMETRISTS
OPTOMETRIC FORUM
Vol. 1, No. 1 October, 1981

Political Action Program National Defense/Passport Guarantor

CAO's 1981 Political Action Program gained momentum throughout the year, building on initiatives undertaken in the previous year. Printed flyers and the Optometric Forum (English and French) were prepared and sent to all CAO members encouraging optometrists to become directly involved in the political process. As a result, over 100

O.D.'s responded with letters to the Ministers of National Defence and External Affairs and to their Members of Parliament, urging that action be taken to resolve these issues to the satisfaction of the Association.

In September, 1981, CAO President Hervé Landry and CAO officials met with the Surgeon General and the Minister of External Affairs to further press home the issues. Based on these meetings and other communications occurring later in the year, CAO remains hopeful that Optometry's legitimate interests and concerns may yet be recognized and supported by government. An increasingly sustained and vigorous personal involvement by our general membership will certainly be a deciding factor in the eventual realization of our objectives.

C.N.I.B.

As a result of meetings held in Toronto during the fall of 1981 between CAO President Hervé Landry, CAO's Executive Director and CNIB officials, CAO is pleased to note there is reason to believe the CNIB's relationship with optometry may show considerable improvement in the 1980's.

CNIB officials proposed, in a September '81 meeting, that a National Low Vision Centre be established as a model to be operated and managed by the CNIB, employing both optometrists and ophthalmologists. We remain hopeful that such a proposed venture will become a reality and provide a needed service to the partially sighted as well as provide an example of the value of cooperative effort between optometry and ophthalmology in Canada.

I.O.O.L.

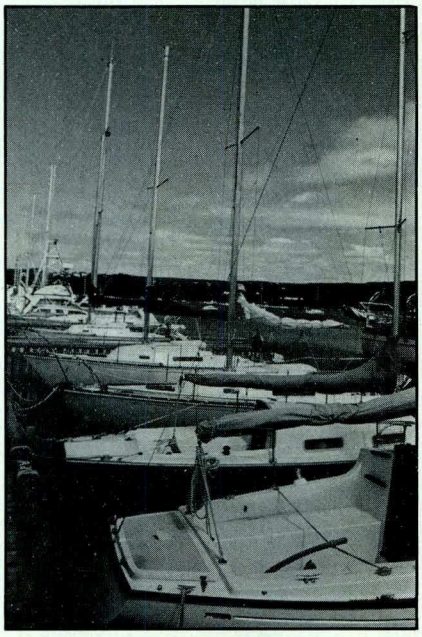
CAO Secretary-Treasurer, Dr. Roland desGroseilliers attended the IOOL World Symposium on Optometry in Paris, France as CAO's official delegate. Over the course of several half-day sessions, Dr. desGroseilliers had the opportunity to become further acquainted with the concerns and programs of international optometry. In his report he strongly recommended that CAO actively seek to become more aware and involved with optometry abroad. For that reason, CAO Council, Provincial Presidents and their executives participating in the annual CAO Interaction meetings have agreed to convene the 1982 meeting in Boston, site of the 1982 IOOL World Symposium and AOA Annual Congress.

National Council on Optometric Education

Formerly the National Council of Optometry, the renamed National Council on Optometric Education made substantive progress towards meeting its goals as a result of the productive 1981 spring and fall meetings of the Council. There are now two distinct committees in action, the Syllabus and Examination Committees which have been assigned to specific tasks in anticipation of having the national examination and accreditation process in place by June 1983. The NCOE was most pleased to report that the British Columbia Optometric Association agreed to become an active member once again. The 1981 CAO Interaction meetings provided an excellent opportunity for Dr. Ronald Haines, on behalf of the NCOE, to present an address to the assembled provincial representatives. As a result of the meeting and discussions, various provincial executives were able to focus attention on issues of specific concern to the provinces, ranging from levels of provincial participation to administrative costs associated with the program.

National Advisory Committee on Vision Care Plans

Considerable progress was made during 1981 in implementing key objectives of the National Advisory Committee on Vision Care Plans. This CAO-affiliated body now actively represents the Third Party Contract interests of optometrists in all provinces. At meetings held in Vancouver, St. John's and Toronto, provincial representatives met to discuss additional strategies designed to expedite Optometry's expansion of services to meet the needs of the occupational vision care sector. A CAO-coordinated outreach plan was developed whereby leading corporate employers, unions and government agencies were contacted to advise them of the success of optometric plans in the west to date, and to solicit their support. Preparation commenced on education materials, audio visuals and films to publicize the plan and to reinforce the success potential for optometric participation in those Third Party Vision Care Contracts already in place.



CAO Biennial Congress

From all accounts, the 1981 St. John's Biennial Congress was a resounding success. A total of 328, including optometrists, their guests, spouses and children attended the Congress billed as the "CAO Atlantic Experience." Top-notch, internationally reknowned speakers presented a variety of continuing education seminars. And lively spouses', children's and social programs provided an enjoyable counterpoint to this celebrated Biennial event. A more complete report of the Congress activities and education seminars may be found in CJO Vol. 4. No. 2.

Interaction '81

Once again the annual policy planning meeting, Interaction '81, allowed 36 provincial optometric leaders to assess the rate of progress in achieving the objectives of our ongoing five-year national plan.

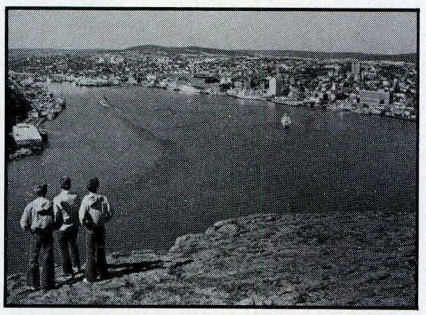
Convened during the 17th Biennial Congress in St. John's, Interaction's full two day agenda covered a variety of topics presented by optometric leaders.

CAO Past-President Dr. Jack Huber discussed "the CAO/Provincial Association Connection," stressing the theme of Communications (based on personal observations over his many years of service to CAO). In particular, he underlined the need to more fully integrate the CAO Councillor into the affairs of the Provincial Association to ensure his communications value is maximized. He also reviewed the basis for funding and budgeting for performance in CAO programs and concluded with a specific recommendation, which received the support of the Interaction participants, that the provincial associations and CAO meet the challenge to improve our present mode of operation.

Nova Scotia CAO Councillor Dr. Ralph Rosere's presentation focussed on the desired political process when provincial associations plan to change their optometry acts to allow for the use of pharmaceuticals. In his discussion, he reviewed the necessity for active and total support of the provincial association members in the lobbying activity required for the successful realization of optometry's legislative goals.

Special guest speaker Mr. Steve Nery, a Newfoundland MPP, provided valuable pointers on how to influence the governmental decision-making process. Referring to his experience with lobbying from the politician's standpoint, he discussed the various influences of media, public opinion, politicians' self interest and the most appropriate way to present one's position to a Minister.

Day two of Interaction focussed almost entirely on the National Council on Optometric Education. Dr. Ronald Haines, NSAO President, led the discussion on the role and method of the Accreditation and Examination Committees, portability of the NCOE certificate and the identification of obstacles in the way of immediate and long-term objectives of the organization. Dr. Haines concluded his remarks with the recommendation that provincial organizations take decisive action to ensure the National Council's progress as a responsive administrative tool to the profession's needs.



Provincial President's Meeting

In a meeting chaired by Congress Host President Dr. Kevin Halleran, the Presidents of the British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia and Newfoundland associations held day long discussions which provided in depth coverage of topics such as provincial health care commission agreements, other governmental third party contracts for optometric services and optometry acts and regulations.

Terms for optometric inclusion in provincial health care plans were discussed and compared. Political, economic and administrative problems associated with the provincial associations' annual negotiations with health care commissions received considerable attention. Future objectives and negotiating tactics for expanded coverage and improved payments for services received the closest scrutiny of all topics of discussion. The consensus of the provincial presidents was that Optometry should resolve not to accept lower fees or fewer covered services than any other health profession.

Optometric involvement in other governmental plans (e.g. DVA, RCMP, Social Welfare etc.) was a topic of lively and informative discussion. Terms of these plans and political, economic and administrative problems associated with the annual negotiations for these agreements were discussed. The Presidents' consensus was that one hundred per cent of the provincial fee schedule amounts should be expected and vigorously negotiated for. The rationale for this objective is that optometrists pay taxes and should not be required to further subsidize government's programs.

Progress in revising and passing Optometry Acts was reviewed. Time frames, content changes, anticipated opposition and successful negotiating tactics were also discussed. Participating Presidents agreed that the provincial presidents' meeting was a significant aid and that such meetings should continue as an annual event to be held at the time of each Interaction meeting.

Provincial Association Meetings

During the year 1981, CAO representatives attended the following provincial events: Dr. Hervé Landry attended provincial association meetings in British Columbia, Manitoba, Ontario, Nova Scotia, Newfoundland, Prince Edward Island and Quebec as well as visiting the University of Waterloo's School of Optometry. CAO's Executive Director attended meetings in New Brunswick and visited the University of Montreal's School of Optometry. Dr. Reid MacDuff, as CAO Vice-President, was present at meetings in Alberta and Saskatchewan.

General Business Meeting

"Optometry Meeting the Challenges of the Eighties" provided the theme for our 1981 General Business Meeting held during the St. John's Biennial Congress.

Attendees received in-depth reports from optometric committee

and organization leaders on a variety of issues and programs. Delegates were informed of developments in governmental and interprofessional relations, and other affairs affecting the scope of optometric practice.

Of particular note to members was the special address on "Communications" delivered by Dr. Harry Basman, Chairman of the Western Communications Committee. The text of his message may be found in CJO Vol. 43. No. 2 & 3. In brief, he hammered home the point that optometry must rely upon itself alone to get the optometric message across. By and large, he said, we are not doing a very good job at the individual member level. Each optometrist must assume responsibility for supporting the public communications plans of his or her provincial association.

Dr. Grant Campbell spoke on the subject of optometric discrimination. His presentation accurately pinpointed the full range of opposition that optometry has withstood in order to ensure that optometry's role as the primary vision care provider continues to be recognized. Citing many instances of past (and ongoing) problems, Dr. Campbell urged all members to resolve now to commit themselves to work at local provincial levels to meet any opposition to optometry's successful achievement of our goals head on.

Dr. M.E. Woodruff

In a special presentation, Dr. Emerson Woodruff, former Director of the University of Waterloo's School of Optometry was honoured by the members for his years of service and support to the profession, and to CAO, as Director. A commemorative plaque recognizing his contributions was presented at this time. Dr. Woodruff thanked his many colleagues and his predecessor, Dr. Ted Fisher, for their support and team approach to school and CAO objectives during his term as Director.

CAO/APOQ Corporate Member Status

We regret to inform our members that, as of the time of the preparation of this report, the desired working relationship between CAO and the APOQ has yet to be restored to previous levels. The considerable conciliatory efforts undertaken on CAO's behalf by President Hervé Landry have not met with the success we have hoped for. Although the APOQ General Membership voted at their June, 1981 meeting in favour of continued participation in CAO as a full corporate member, based on a per member fee payment acceptable to both parties, the corresponding participation of the APOQ Executive Council and their appointed CAO representative in CAO's ongoing programs has yet to take place. CAO's Council remains hopeful that full participation of the APOQ may be expected early in 1982 so that Canadian optometry might present a united front to deal with the many issues and challenges confronting the profession today.

Interprofessional Relations

At the recommendation of the Interprofessional Relations Committee, CAO maintained liaison and monitoring activity with a host of organizations active in the health management and administration fields.

On a variety of occasions, CAO representatives attended meetings in association with the CMA, Canada Safety Council, C.N.I.B., I.O.O.L., AOA and other organizations.

In the fall of 1981, CAO hosted Mr. Tom Eichhorst, Legal Counsel to the American Optometric Association on his visit to Ottawa and the University of Montreal. An account of Mr. Eichhorst's visit may be found in the March/82 CJO.

In addition to these and other administrative activities, CAO and the Interprofessional Relations Committee initiated preparation and/or response to actions of the Canadian Guild of Dispensing Opticians in New Brunswick and the CMA's new draft role document regarding the vision care professions entitled "Perspectives on Health Occupations."

The other principal area of the Committee's activity was devoted to revising CAO's Role Document to more accurately reflect the idealized relationship of optometry to the other health care professions.

Nova Scotia Drug Study

As a result of opposition to a 1981 initiative of the Nova Scotia Optometric Association to revise their provincial Optometry Act to include among other things, authorization of the use of diagnostic drugs, a Special Committee was appointed by the Nova Scotia government to review the matter. The Committee Report, released to the Nova Scotia Minister of Health late in 1981, was decidedly unfavourable to the position optometry has striven to develop with regard to the achievement of qualified training and education of optometrists in the responsible use of diagnostic drugs. Recognizing that the Committee Report could not go unchallenged, due to its possibly damaging effect upon the efforts of other provinces to extend their legislation, CAO assisted the NSOA in developing a detailed critique of the report, noting every instance of misinformation, misleading statements and departures from the Committee's original terms of reference. The successful resolution of this issue will doubtless require considerable sustained effort by the

Nova Scotia Association of Optometrists and CAO in the year to come.

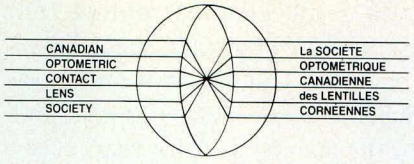
Canadian Optometric Education Trust Fund

The fund-raising program of the Canadian Optometric Education Trust Fund has shown steady growth over the previous year. Our 1982 campaign resulted in an increase of 22 per cent over the 1981 total. The COETF Trustees were pleased to announce awards (see Sept '81 CJO for details) totalling $23,000 for projects promoting research and manpower development for the benefit of the profession and the public at large. Data from a Contact Lens Solution Study conducted by Dr. W. Lyle and funded by COETF for $1,500 was published in the December '81 CJO for the reference purposes of all our members. Among other awards, clinical equipment was also purchased for the Waterloo Low Vision Clinic. The exciting promise underlining these awards is that the COETF, while still far from its $3,000,000 goal, in now at a point in its development where awards may be made from the interest accruing from the total Trust Fund balance. As the balance increases, so do the awards. COETF contributors are now assured that their support will generate award revenues for years to come.

The Canadian Optometric Education Trust Fund Campaign '82

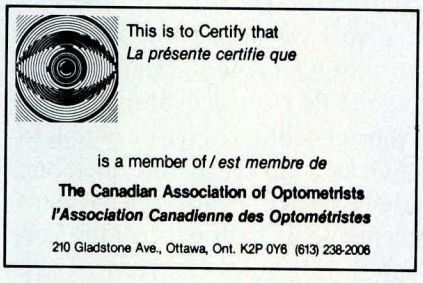
Canadian Optometric Contact Lens Society

Due primarily to the constant and dedicated efforts of Dr. Joshua Josephson and his associate, Dr. Barbara Caffery, the Canadian Optometric Contact Lens Society (COCLS) has been resurrected under the auspices of CAO. As an independently constituted body, COCLS will provide a valuable



forum of exchange for Canadian optometrists who wish to keep abreast with state of the art developments in contact lens science. To launch the Society, a special supplement to the CJO, "Transactions," was prepared for release to CAO members early in 1982. Advertisers in this special Contact Lens Supplement joined together in support of COCLS with a significant cash endowment to fund the revitalization of the Society. CAO's Administrative Program Coordinator, Mike DiCola has and will continue to provide administrative liaison services for the Society from CAO's national office.

Members' Benefits


This is to Certify that
La présente certifie que

is a member of / *est membre de*

The Canadian Association of Optometrists
l'Association Canadienne des Optométristes

210 Gladstone Ave., Ottawa, Ont. K2P 0Y6 (613) 238-2006

The range of individual members' benefits received special attention in 1981. In addition to the regular new members' program, which includes a hand-inscribed CAO wall certificate, CJO subscription and sample pamphlet kit, CAO also authorized the printing of permanent plastic wallet-size membership cards to be distributed to all members early in 1982. Membership corporate discounts also were expanded in late 1981 to provide CAO members with improved travel-related discount rates. Corporate discounts are now available to members at all Delta Hotels and Ramada Inns in Canada. Special rates for auto-rentals are also now available at Hertz, Avis, Tilden and Holiday Rent-A-Car.

CAO Staff

We have been most fortunate in having our CAO Administrative team remain relatively intact throughout 1981, thereby maximizing the efficient supervision and performance of CAO programs.

Close to year's end CAO was most fortunate in securing the return of Michael DiCola in the capacity of Administrative Program Coordinator. As noted in the December CJO Bulletin, Mike will assume a variety of support roles to the Executive Director, as well as undertaking of the financial management of the CJO.

Public Information Coordinator, Alex Saunders, continues in his role and hopefully will be free to devote more time to P.I. programs now that Mike's aboard. Alex will continue to contribute to the CJO's and Optometric Forum's content as well as promoting both internal and external CAO communications.

CAO's receptionist/word-processor, Annette LeFort and Trust Fund Secretary Deanna Verhey remain on staff under the capable direction of Ruth Wilcox, our Office Manager and Executive Secretary.

Canadian Journal of Optometry

The publishing year of 1981 saw the CJO retain its favourable break-even basis of operation and maintain its high content standard.

Although in effect comprising only three complete editions, our content line-up presented a wide variety of original clinical and research materials.

Our CJO Editors took particular pleasure in announcing the occasion of the first convocation of the Doctor of Optometry degree from the Université de Montreal, School of Optometry, in the March '81 edition. The September summary of the CAO Biennial Congress provided a colourful overview of each event for those members unable to attend.

To wrap up the print year, the CJO was proud to present evidence of the first fruits of the Canadian Optometric Education Trust Fund Award Program's efforts, a study on Chemical Components of Contact

Lens Solutions by W.M. Lyle and V.J. Lum.

Also, the CJO was pleased to lend its production team services to the development of the first report on the newly resurrected Canadian Optometric Contact Lens Society, titled "Transactions" which was distributed separately to our national membership shortly after the close of the year 1981. CJO's Editor Dr. Maurice Belanger, is pleased to announce that a special section of the CJO will be reserved in successive issues for continued "Transaction" reports on COCLS activities and related clinical contact lens research papers.

Computer Data Files

Keeping pace with current association management trends in automated information retrieval systems, CAO Council approved the transfer of membership files and other selected data onto a computer software program.

Surplus revenue from the CJO has enabled us to make this important step at no cost to the general membership. In addition to reducing CAO staff time spent in updating and producing mailing lists, the new system will facilitate the reprinting of future editions of the Index of Canadian Optometrists at markedly reduced costs.

Also, CAO can make membership mailing list labels available to our member provincial associations at a significant reduction. The cross-referencing data function is of particular utility and will be helpful in the future administration of the Canadian Optometric Education Trust Fund, the Canadian Optometric Contact Lens Society and other CAO-related committees.

Public Information Programs

In keeping with budgetary restrictions reflecting reduced CAO operating capital for 1981, our CAO PI program was necessarily restrained.

Attention was focussed instead on preparing the way for P.I. developments in the next several years. While support of CAO pamphlets has thus far been favourable there have been requests from members that CAO update and expand our pamphlet selection. Therefore, in cooperation with the Western Communications Committee, plans were made for CAO to fund the prepartion and introduction of six new pamphlets in 1982. In addition, a budget was developed for the design and production of three slide/script series on various aspects of vision care.

CAO maintained its support and contact with the Canada Safety Council during preparations for the introduction of 55 Alive during 1981.

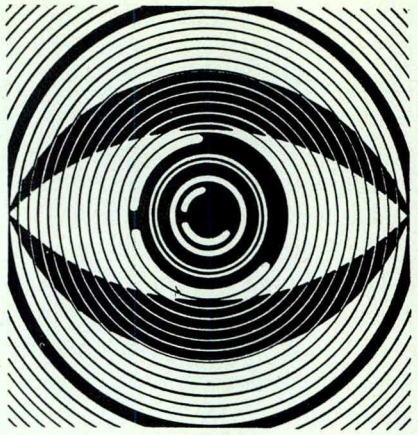
As a result of our continued interest and participation, CAO and its provincial corporate members stand to benefit from the implementation of the 55 Alive program and its announcement nationwide in 1982. The opportunity of becoming personally involved with the plan was communicated to CAO members via the Journal and the provincial associations' newsletters.

CAO's St. John's Biennial Congress received good events coverage. CAO representatives provided radio and newspaper interviews regularly over the course of the Congress program. The declaration of Save Your Vision Week by St. John's Mayor, Dorothy Wyatt received televised coverage from City Hall.

News releases were prepared throughout the year as required, notably those announcing the appointment of Dr. Reid MacDuff as CAO President for 1981-82 to Maritime and optometric, health care media.

CAO Symbol

As part of CAO's efforts to raise the profile of the association in both



CANADIAN ASSOCIATION OF OPTOMETRISTS

the members' and public eye, we embarked on a search for a new graphic symbol to represent Optometry on official CAO correspondence and publications.

After submission and consideration of many designs from independent artists as well as interested optometrists from the Executives of several Provincial Associations, CAO Council selected the symbol depicted on this page to be introduced to our national members on a trial basis.

Provincial Association and practitioner comment was invited. To date the Saskatchewan and New Brunswick Associations have moved to adopt the symbol on their letterheads. B.C. has expressed some reticence, with no comment received from the other provinces. Individual member response has been limited to 10 replies. CAO will once more attempt to discern support early in the new year and, if no further comment is received, will move to formally adopt the symbol for distribution to national news media for use in any optometry-related story.

Index of Canadian Optometrists

Work commenced on this major 1981 project early in the year with the circulation of two thousand questionnaires to CAO members. Over eight hundred and fifty completed questionnaires were returned

to CAO's office where they were coded and entered on file cards. The production costs of the index were entirely offset through the steadfast support of our advertisers, to the extent that there was surplus revenue to fund the CAO Biennial Congress Souvenir Program as well. While the Index is the most comprehensive attempted to date, plans are already underway to make the next publication even more precise and complete in its category listings, thanks to the valued feedback, comments and criticism received from our members.

Optometric Forum

To meet the need for increased communication to our members, CAO was instructed at the St. John's General Business meeting to introduce a newsletter to keep the membership abreast of developments in the optometric political field. To meet that demand, CAO developed the Optometric Forum, the first edition of which was devoted entirely to the support of CAO's Political Action Program. Members were brought up to date on recent communications between CAO and the Ministers of National Defense and External Affairs and counselled on the official CAO response to the Minsters' opposition to our demands. Future issues will now be released between CJO mailing dates as required.

New School of Optometry

The CAO's New Academic Facilities Committee, anticipating the possibility that efforts to create a new western school of optometry might be deadlocked, established that a worthwhile alternative would be a third eastern school.

Accordingly, a search was undertaken for a new eastern site. It was determined that the University of New Brunswick would view the establishment of a professional school of optometry most favourably. Discussions in 1981 were undertaken in an exploratory spirit to provide a reasonable option for the profession.

Last year CAO reported that any further progress on a western school was dependent on the results of a western government-sponsored healthcare manpower study to be released in March, 1982, at a meeting of the western Premiers. The situation remains unchanged. At the time of this report's preparation, CAO has not received confirmation whether in fact the commissioned manpower study will be tabled for discussion by the Premiers. CAO's future course of action will depend upon the outcome of the disposition of the manpower study.

Finances

A summary report of our 1981 audited statement is published for your consideration in this issue of the Journal. Please feel free to direct any questions to CAO's Executive Director, Donald Shaefer.

Summary

The Council and administrative staff of the Canadian Association of Optometrists regard 1981 as a productive year of effort on behalf of the profession of optometry. Our sincere acknowledgement and thank you is extended to each of you, your provincial executives and association staff for the financial and program support we have received throughout the year. We look forward to the continuing development of our organizational strengths so that we may ensure Optometry's ability to meet the challenges confronting the profession remains an enduring one. We thank you for your interest in this report and welcome any questions or comments you may wish to make.

RAPPORT ANNUEL 1981 DE L'ACO

Sur le plan administratif, l'Association canadienne des optométristes est structurée selon le modèle d'une fédération des dix associations provinciales d'optométrie du Canada. Nos programmes visent à assurer que les conditions qui régissent la pratique de votre profession ne seront pas assujetties à des changements arbitraires causés par des pressions venant de l'extérieur. L'ACO cherche continuellement à améliorer tous les aspects des soins de première ligne offerts par la profession par la réalisation des objectifs d'organisation suivants:

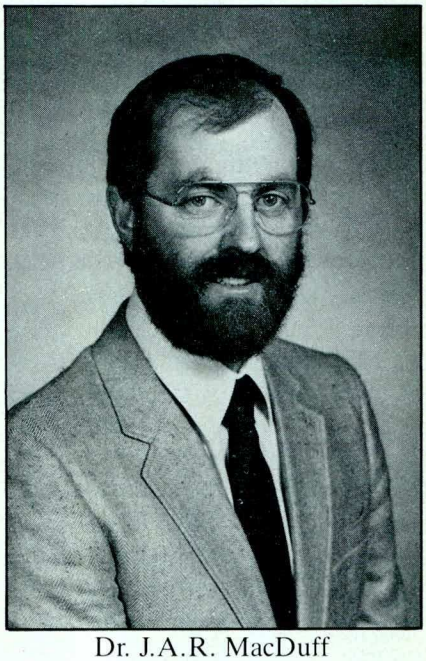
1. Agir comme représentant reconnu des optométristes canadiens dans les domaines d'activité relevant de la juridiction fédérale.
2. Coordonner les activités de chaque association provinciale, afin de parvenir à une entente entre les provinces sur l'avenir de l'optométrie.
3. Encourager les relations entre les professionnels des diverses professions de santé.
4. Identifier les besoins en main d'oeuvre du secteur de l'optométrie et y répondre.
5. Sensibiliser davantage le grand public et le gouvernement à la nécessité d'accéder aux services qu'offrent les optométristes.
6. Chercher continuellement à parfaire la science de l'optométrie et à améliorer la qualité des soins ophtalmiques offerts aux Canadiens.
7. Encourager les membres à parfaire leurs connaissances par l'éducation permanente.
8. Encourager les optométristes à participer activement aux organisations qui se dévouent à promouvoir l'hygiène publique et la protection de la vue.

Ce rapport a été préparé par Alex Saunders, Coordinateur de relations publiques de l'A.C.O.

Au seuil de sa 35ème année de service à la cause de l'optométrie canadienne, l'ACO continue à représenter les intérêts de la profession, et de votre Association d'optométrie locale. Ce rapport résume les nombreuses activités entreprises, en votre nom, par votre association nationale, afin de préserver et de protéger votre rôle de fournisseur principal de soins de la vue au Canada.

Veuillez bien regarder de près chacun des résumés d'activités suivants tout en vous rappelant que ce travail s'accomplit en grande partie grâce à vos cotisations et aux efforts bénévoles d'une centaine d'optométristes dans tous les coins du pays.

Conseil de l'ACO



Dr. J.A.R. MacDuff

Lors de la réunion du conseil de l'ACO, tenue du 24 au 26 octobre à Ottawa, les conseillers ont choisi leur exécutif pour un an, d'octobre 1981 à octobre 1982. le Dr Reid MacDuff, de Gander, a été nommé président. Le Dr Hervé Landry, de Moncton, est devenu président échu, et le conseiller pour Ottawa, le Dr Roland desGroseilliers, d'Ottawa, vice-président. Le Dr Richard Watts, de Calgary, qui devait assumer les fonctions de secrétaire-trésorier, s'est malheureusement vu dans l'obligation de retirer sa candidature, à la suite d'autres obligations, et de son travail au Comité national de consultation. Le Dr Scott Brisbin, également de Calgary, a remplacé le Dr Watts comme conseiller. Le Dr James Patriquin de Cornerbrook, est devenu conseiller pour Terre-Neuve, sous la présidence du Dr MacDuff. Le Dr Jack Huber, de Régina, après avoir rempli, ces dernières années, les fonctions de conseiller, de membre de l'exécutif et de président, de l'ACO, cède son poste de conseiller de la Saskatchewan au Dr. James Krueger de Saskatoon. Le Dr Ray Corbin a cédé le siège provisoire au conseil, qu'il occupait pendant le mandat du Dr Landry. Le Dr Norman Armstrong, après avoir servi plusieurs années comme représentant de la Colombie Britannique à l'ACO, s'est retiré du conseil et a été remplacé par le Dr Rix Graham, de Vancouver. Egalement, après plusieurs années de service, le Dr Gregory Beer, de l'Ile du Prince Edouard, s'est retiré du conseil et a été remplacé par le Dr Richard Zenner. Finalement, le Dr Bruce Rosner est devenu conseiller pour le Manitoba et le Dr Ralph Rosere pour la Nouvelle Ecosse.

Programme d'action politique Défense nationale/Garant des passeports

Le programme d'action politique de 1981 de l'ACO a gagné en force pendant l'année, et a consolidé les initiatives entreprises l'année précédente. Des dépliants imprimés, ainsi que Forum de l'optométrie, ont été publiés (en anglais et en français) et envoyés à tous les membres de l'ACO, encourageant les optomé-

tristes à s'engager personnellement dans l'action politique. A la suite de ces envois, plus de 100 O.D. ont écrit au Ministre de la défense nationale, au Ministre des affaires extérieures, et à leurs députés, pour leur demander de prendre des mesures conduisant à la résolution des problèmes dans un sens désiré par l'Association.

En septembre 1981, le président de l'ACO, Hervé Landry, et des membres de l'ACO, ont rencontré le chef des services de santé du ministère de la défense nationale et le Ministre des affaires extérieures pour les convaincre du bien fondé de notre position. Sur la base de ces réunions, et d'autres contacts ultérieurs, l'ACO espère que les préoccupations et les intérêts légitimes de l'optométrie puissent être reconnus et soutenus par le gouvernement. Une action personnelle de plus en plus vigoureuse et constante de nos membres constituera sans aucun doute un facteur décisif de succès pour la réalisation de nos objectifs.

Institut National Canadien des Aveugles

A la suite de réunions ayant eu lieu en automne 1981 à Toronto entre le président de l'ACO, Hervé Landry, le Directeur exécutif de l'ACO et des membres de l'INCA, l'ACO est heureuse de noter qu'il existe des raisons de penser que les relations de l'INCA avec l'optométrie doivent s'améliorer considérablement dans les années 80.

Les membres de l'INCA ont proposé, au cours d'une réunion ayant eu lieu en septembre 81, la création, à titre de modèle, d'un Centre national de vision sous-normale, géré conjointement par des optométristes et des ophtalmologistes. Nous espérons que ce projet devienne réalité et fournisse un service nécessaire à ceux dont la vue n'est pas bonne, tout en constituant un exemple de la valeur des résultats d'un effort conjoint de l'optométrie et de l'ophtalmologie au Canada.

Ligue Internationale d'Optique et d'Optométrie

Le Dr Roland desGroseillers, secrétaire-trésorier de l'ACO, a représenté officiellement l'ACO au Symposium mondial de la LIOO, à Paris, France. En assistant à un certain nombre de sessions d'une demi journée, le Dr desGroseillers a pu acquérir une meilleure connaissance des problèmes et des programmes internationaux d'optométrie. Dans son rapport, il recommande fortement que l'ACO s'efforce activement d'être plus au courant et de plus participer aux activités optométriques à l'étranger. En conséquence, le conseil de l'ACO et les présidents et membres des exécutifs provinciaux participant aux Interactions annuelles de l'ACO ont décidé qu'Interaction '82 aurait lieu à Boston (19-24 juin), où doit se tenir le Symposium mondial 1982 de la LIOO, et le Congrès annuel de l'AOA.

Conseil national d'études optométriques

Anciennement appelé Conseil national d'optométrie, le nouveau Conseil national d'études optométriques a réalise des progrès importants en vue de la réalisation de ses objectifs lors de réunions productives tenues du printemps et à l'automne 1981. Deux comités distincts, celui des programmes et celui des examens, ont été créés et ont reçu des tâches spécifiques à accomplir, afin que le système national d'examen et d'accréditation puisse commencer à fonctionner en juin 1983. le CNEO a le grand plaisir de rapporter que l'Association optométrique de Colombie Britannique a accepté de redevenir membre actif. Interaction 1981 de l'ACO, a donné la possibilité au Dr Roland Haines de s'adresser, au nom des CNEO, aux représentants provinciaux présents. Lors de cette réunion, et des discussions en résultant, certains membres exécutifs provinciaux ont pu attirer l'attention sur des problèmes particuliers aux provinces, allant des niveaux de participation provinciale aux coûts administratifs liés au programme.

Comité national de consultation sur les programmes de soins de la vue

Le Comité national de consultation sur les programmes de soins de la vue a réalisé, en 1981, des progrès considérables en vue de la réalisation de ses objectifs majeurs. Cet organisme, affilié à l'ACO, représente maintenant d'une manière active, dans toutes les provinces, les intérêts des optométristes dans les contrats à tierce partie. Lors de réunions ayant eu lieu à Vancouver, à St. John's et à Toronto, des représentants provinciaux ont examiné des stratégies supplémentaires visant à promouvoir l'expansion de services d'optométrie afin de satisfaire les besoins du secteur des soins de la vue. Un programme coordonné de consultation a été développé, en vertu duquel on a contacté des employeurs privés importants, des syndicats et des agences du gouvernement pour les mettre au courant du succès actuel des programmes de soins de la vue dans l'ouest, et pour leur demander leur soutien. On a commencé à préparer du matériel éducatif, des présentations audio-visuelles et des films, pour faire connaitre le programme et augmenter les chances d'avoir une participation des optométristes dans les contrats de soins de la vue à tierce partie déjà en vigueur.

Congrès biennal de l'ACO

Sous tous les rapports, le Congrès biennal 1981 de St. John's a remporté un succès éclatant. Au total, 328 personnes, comprenant les optométristes, leurs invités, leurs conjoints et leurs enfants assistèrent au Congrès, surnommé l' "Expérience atlantique de l'ACO". Des conférenciers de premier plan, de réputation internationale, ont présenté un grand nombre de séminaires d'éducation permanente. Un programme social animé, destiné aux conjoints et aux

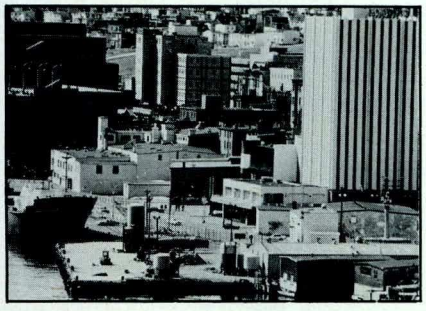
enfants a fourni un complément agréable à cet évènement biennal interessant. On peut trouver un rapport plus complet des activités et des séminaires d'études du Congrès dans la RCO vol. 4 nº 2.

Interaction '81

Une fois encore la réunion annuelle Interaction '81 de planification des politiques a permis à 36 dirigeants provinciaux en optométrie d'évaluer les progrès réalisés en vue de l'obtention des objectifs de notre plan quinquennal national en cours.

Convoqué dans le cadre général du 17ème congrès biennal de St. John's, Interaction a duré deux jours, et son ordre du jour a compris un grand nombre de sujets présentés par des dirigeants optométristes.

Le Dr Jack Huber, président échu de l'ACO, a exposé "la liaison de l'ACO avec les Associations provinciales" en insistant sur le thème des communications, et en puisant dans son expérience personnelle de nombreuses années de service à l'ACO. Il souligna, en particulier, le besoin d'impliquer plus étroitement les conseillers de l'ACO dans les affaires des Associations provinciales, afin d'assurer que les conseillers de l'ACO, remplissent bien leur fonction de communication. Dans sa conférence, il examina également l'utilisation du financement et de l'établissement de budgets comme critère de rendement pour les programmes de l'ACO, et, en conclusion, il fit une recommandation spécifique qui reçut le soutien des participants à Interaction, que les Associations provinciales et l'ACO relèvent le défi d'améliorer notre mode de fonctionnement actuel.



Le Dr Ralph Rosere, conseiller pour la Nouvelle Ecosse, présenta ses conclusions, évaluant le processus politique utilisé par les Associations provinciales lorsqu'elles essayent d'obtenir des amendements aux lois régissant l'optométrie permettant l'utilisation des produits pharmaceutiques.

Dans sa conférence, il examina la nécessité d'un soutien actif et inconditionnel de tous les membres des Associations provinciales en faveur des actions politiques entreprises pour que la profession puisse remplir ses objectifs dans le domaine législatif. M. Steve Nery, MPP de Terre Neuve, fut le conférencier invité spécial et donna des renseignements précieux sur la manière d'influencer le processus gouvernemental de prise de décision. En se basant sur son expérience d'homme politique traitant avec des groupes de pression, il parla de l'influence de la presse, de celle de l'opinion publique, de l'intérêt des politiciens eux mêmes, et de la manière la meilleure de présenter notre point de vue à un Ministre.

Le deuxième jour, Interaction fut presque entièrement consacrée au Conseil national d'études optométriques. Le Dr Ronald Haines, président du CNEO, dirigea une discussion sur le rôle et le fonctionnement des Comités d'accréditation et des examens, la transférabilité du certificat du CNEO, l'identification des obstacles se dressant sur la route des objectifs à court et à long terme de l'organisation. Le Dr Haines conclut ses remarques en recommandant que les organisations provinciales prennent des mesures décisives afin d'assurer que le Conseil national continue à être l'outil administratif responsable de la satisfaction des besoins identifiés par la profession.

Réunion des présidents provinciaux

Sous la présidence du président hôte du Congrès, le Dr Kevin F. Halleran, les présidents provinciaux ont tenu leur première réunion dans le cadre d'Interaction '81 à St. John's.

Les présidents des associations de Colombie Britannique, d'Alberta, de la Saskatchewan, du Manitoba, de l'Ontario, du Nouveau Brunswick, de la Nouvelle Ecosse et de Terre Neuve assistèrent à cette réunion.

Pendant toute la journée, des discussions couvrirent en profondeur des sujets tels que les accords des commissions provinciales de soins de santé, les autres contrats gouvernementaux de tierce partie pour les services d'optométrie, et les lois et les réglements régissant l'optométrie.

On discuta et on compara les conditions d'inclusion de l'optométrie dans les programmes provinciaux de soins de santé. Les problèmes politiques, économiques, et administratifs liés aux négociations annuelles des associations provinciales avec les commissions de soins de santé reçurent énormément d'attention. De tous les sujets de discussions, les objectifs futurs et les tactiques de négociations en vue d'un élargissement de la couverture et d'une amélioration des paiements furent ceux qui firent l'objet de l'examen le plus approfondi. Le concensus des présidents provinciaux fut que l'optométrie ne doive pas se résoudre à accepter des honoraires plus bas ou à avoir moins de services couverts que les autres professions s'occupant de santé.

La participation de l'optométrie à d'autres programmes du gouvernement (p. ex. des Anciens Combattants, de la GRC, du Bien être social, etc. . .) fit l'objet d'une discussion vive et interessante. On discuta les termes de ces programmes, ainsi que les problèmes politiques, économiques et administratifs liés aux négociations annuelles de leurs contrats. Le concensus des présidents fut que l'on devait obtenir cent pour cent des montants des échelles provinciales d'honoraires, et que l'on devrait vigoureusement négocier en vue de cette obtention. Cet objectif est justifié par le fait que les optométristes payent leurs impôts et ne devraient pas, en plus, avoir à subventionner des programmes gouvernementaux.

On examina les progrès réalisés dans la révision et le passage des lois sur l'optométrie. On discuta également leur échancier, les changements dans leur contenu, l'opposition probable et des tactiques de négociations souhaitables. Les présidents participants furent d'accord pour dire que cette réunion des présidents provinciaux était très utile, et qu'il devrait y avoir chaque année une réunion semblable, à la même époque qu'Interaction.

Réunions des Associations provinciales

Pendant l'année 1981, des représentants de l'ACO ont participé aux activités provinciales suivantes: Le Dr Hervé Landry a assisté à des réunions des Associations provinciales de Colombie Britannique, du Manitoba, de l'Ontario, de Nouvelle Ecosse, de Terre Neuve, de l'Ile du Prince Edouard et du Québec, et a visité l'Ecole d'optométrie de l'Université de Waterloo. Le Directeur exécutif de l'ACO a assisté à une réunion au Nouveau Brunswick et a visité l'Ecole d'optométrie de l'Université de Montréal. Le Dr Reid MacDuff a assisté, en qualité de Vice-président de l'ACO, à des réunions en Alberta et en Saskatchewan.

Conférence annuelle

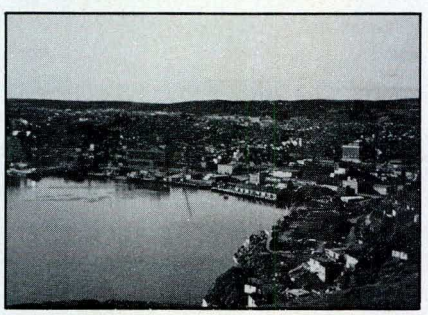
Le thème de notre Conférence annuelle 1981, ayant eu lieu en même temps que le Congrès Biennal de St. John's était "l'optométrie faisant face au défi des années quatre vingt".

Les dirigeants des comités et des organisations optométriques présentèrent aux participants leurs rapports sur un grand nombre de sujets et de programmes. Les délégués furent mis au courant du développement des relations interprofessionnelles et gouvernementales et de sujets susceptibles d'avoir une influence sur les pratiques optométriques.

Les membres furent particulièrement interessés par une conférence spéciale sur "les communications", donnée par le Dr Harry Basman, Président du Comité des communications de l'ouest. On peut trouver le texte de cette conférence dans la RCO Vol. 43, nos 2 et 3. En résumé, il répéta que les optométristes ne peuvent compter que sur eux mêmes pour transmettre leur message. Dans l'ensemble, dit-il, nous ne faisons pas du très bon travail au niveau individuel des membres. Chaque optométriste doit assumer la responsibilité de donner un soutien au programme de communications avec le public de son Association provinciale.

Le Dr Grant Campbell parla de la discrimination s'exercant contre les optométristes. Dans sa conférence, il décrivit d'une manière détaillée le combat que l'optométrie dut mener pour assurer que son rôle de fournisseur principal des soins de la vue soit toujours reconnu. Utilisant des exemples nombreux du passé et du présent, le Dr Campbell pria instamment tous les membres de prendre la décision immédiate de s'impliquer personnellement au niveau provincial, local, à la lutte directe contre toute opposition à l'accomplissement des objectifs de l'optométrie.

Les membres firent au Dr Emerson Woodruff, ancien Directeur de l'Ecole d'optométrie de l'Université de Waterloo, une présentation spéciale en hommage à ses années de service et de soutien à la profession, et à l'ACO, dont il fut directeur. Ils lui présentèrent une plaque commémorative en reconnaissance de sa contribution. Le Dr Woodruff s'adressa aux membres, et remercia ses nombreux collègues, ainsi que son prédecesseur le Dr Ted Fisher, pour leur soutien et leur travail d'équipe du service de l'école et des objectifs de l'ACO pendant son mandat de Directeur.



Statut de membre de l'APOQ au sein de l'ACO

Nous avons le regret d'informer nos membres qu'au moment de la rédaction de ce rapport, les relations de travail entre l'ACO et l'APOQ n'ont malheureusement pas encore été restaurées à leur niveau antérieur.

Les efforts considérables de conciliation entrepris au nom de l'ACO par son président Hervé Landry n'ont pas été couronnés du succès souhaité. Bien que les membres de l'APOQ aient voté à leur Assemblée de juin 1981 en faveur d'une continuation de leur participation à l'ACO, avec paiement d'une cotisation par membre dont le montant serait acceptable pour les deux parties, la participation du Conseil exécutif de l'APOQ et la nomination, par ce conseil, d'un représentant aux programmes permanents de l'ACO découlant de ce vote n'ont pas encore eu lieu. Le Conseil de l'ACO conserve l'espoir qu'une pleine participation de l'APOQ ait lieu au début de 1982, de telle sorte que l'optométrie canadienne puisse présenter un front uni aux problèmes et aux défis nombreux auxquels la profession doit faire face à l'heure actuelle.

Relations interprofessionnelles

A la suite d'une recommandation du Comité des relations interprofessionnelles, l'ACO a maintenu son activité de liaison et d'étude avec une multitude d'associations actives en administration et en gestion de la santé.

A un grand nombre d'occasions, des représentants de l'ACO ont assisté à des réunions conjointes avec l'AMC, le Conseil canadien de la sécurité, l'INCA, la LIOO, l'Association Américainne des Optométristes et d'autres organisations.

En automne 1981, l'ACO a été l'hôte de M. Tom Eichhorst, conseiller juridique de l'American Optometric Association, lors de sa visite à Ottawa et à l'Université de Montréal. On peut trouver un compte rendu de la visite de M. Eichhorst dans la RCO de mars 82.

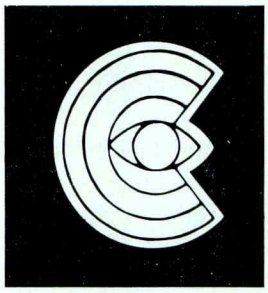
En plus de ces activités, et d'autres activités d'ordre administratif, l'ACO et son Comité de relations interprofessionnelles ont pris l'initiative de préparer une réponse et/ou de répondre aux actions de la Guilde canadienne des opticiens d'ordonnance du Nouveau Brunswick, et à la nouvelle ébauche de document de l'AMC définissant le rôle des professions s'occupant des soins de la vue et intitulé "Perspectives sur les occupations de la santé".

Un autre domaine principal d'activité du Comité a été celui de réviser le document définissant le rôle de l'ACO, afin de refléter d'une manière plus exacte la relation devant idéalement exister entre l'optométrie et les autres professions s'occupant des soins de santé.

Etude des drogues de la Nouvelle Ecosse

A la suite de l'opposition rencontrée par une initiative de 1981 de l'Association optométrique de Nouvelle Ecosse visant à obtenir une révision de sa loi provinciale sur l'optométrie destinée à y inclure, entre autres choses, l'autorisation d'utiliser des drogues en vue de diagnostic, un Comité spécial a été formé par le Gouvernement de Nouvelle Ecosse pour étudier le problème. Le rapport de ce Comité, publié par le Ministre de la santé de Nouvelle Ecosse à la fin de 1981, a été résolument défavorable à la position que les optométristes essayaient de soutenir, que les optométristes reçoivent une formation et une éducation suffisante pour pouvoir utiliser scienment des drogues à l'usage de diagnostic. Jugeant que le Rapport de ce Comité ne pouvait pas rester sans réponse, car il risquait de provoquer des effets désastreux dans les autres provinces qui essayent d'élargir leur législation, l'ACO a aidé la NSOA à en entreprendre une critique détaillée, notant dans chaque cas les inexactitudes, les affirmations induisant en erreur, et le manque de conformité aux termes de référence originaux. Il faudra sans aucun doute l'année prochaine un effort soutenu de l'Association des Optométristes de Nouvelle Ecosse et de l'ACO pour obtenir une solution satisfaisante à ce problème.

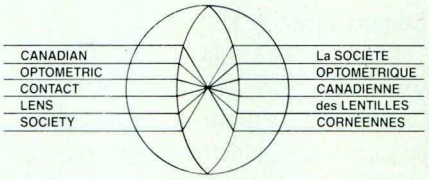
Fonds de fiducie des optométristes canadiens pour l'éducation (FFOCE)



Le programme de collecte de fonds pour le Fonds de fiducie des optométristes canadiens pour l'éducation s'est développé régulièrement par rapport à l'année précédente. Notre campagne de 1982 a occasionné une augmentation globale de 22 pour cent par rapport au total de 1981. Les administrateurs du FFOCE ont eu le plaisir d'annoncer qu'un montant de $23,000 de bourses (voir la RCO de Sept 81 pour de plus amples détails) a été accordé à des projets favorisant la recherche et la formation professionnelle dans l'intérêt de la profession et du grand public. Nous avons publié les conclusions d'une étude sur les solutions des lentilles cornéennes entreprise par le Dr W. Lyle et financée par une bourse de $1,500 du FFOCE dans la RCO de Décembre '81 afin que tous nos membres puissent les utiliser comme référence. L'une des bourses permit également à la Waterloo Low Vision Clinic d'acheter du matériel clinique. Un élément prometteur dans ce programme de bourses est que le FFOCE, bien qu'il soit encore loin de son objectif de $3,000,000 ait atteint une étape de son développement, où les bourses peuvent être attribuées à partir de l'intérêt gagné sur le Fonds de fiducie. A mesure que ce Fonds augmentera, le montant des bourses pourra augmenter. Ceux qui ont apporté leur contribution au Fonds ont maintenant l'assurance que leur soutien occasionnera, dans les années à venir, des revenus pouvant servir de bourses.

Société canadienne optométrique des lentilles cornéennes

Principalement grâce aux efforts constants et dévoués du Dr Joshua Josephson et de son associée, le Dr Barbara Caffery, la Société canadienne optométrique des lentilles cornéennes a été recréée sous les auspices de l'ACO. Comme organisme indépendant, la SCOLC servira d'endroit où les optométristes canadiens désireux de demeurer au courant des derniers développements dans la science des lentilles cornéennes pourront échanger des idées. Afin de lancer la Société, nous avons préparé un supplément spécial à la RCO, intitulé "Transactions" qui devrait être envoyé aux membres de l'ACO au début de 1982. Les sociétés faisant de la publicité dans ce supplément spécial sur les lentilles cornéennes ont donné une contribution importante en espèces pour soutenir la renaissance de la SCOLC. Le Coordinateur des programmes administratifs de l'ACO, Mike DiCola, a assumé, et continuera à assumer le service de liaison administrative entre la Société et le bureau national de l'ACO.



Avantages pour les membres

La gamme des avantages dont bénéficient nos membres s'est beaucoup enrichie en 1981. En plus du programme régulier pour les nouveaux membres, qui comprend un certificat manuscrit mural de l'ACO, un abonnement à la RCO et un ensemble de dépliants échantillons, l'ACO a également autorisé l'impression de cartes de membre permanentes en plastique, de format portefeuille, devant être distribuées à tous nos membres au début de 1982. Les remises accordées par les

sociétés aux membres ont également augmenté fin 1981, pour accorder de meilleurs taux de remises pour les voyages. Des remises sont

maintenant accordées à nos membres dans tous les Hotels Delta et les Ramada Inns au Canada. Des tarifs spéciaux pour les locations de voitures sont maintenant accordés par Hertz, Avis, Tilden et Holiday Rent-A-Car.

Le personnel de l'ACO

Nous avons eu la chance de conserver l'équipe administrative de l'ACO relativement intacte en 1981, et par conséquent de conserver la meilleure gestion et le meilleur rendement possible pour les programmes de l'ACO.

Vers la fin de l'année, l'ACO a eu la chance d'obtenir le retour de Michael DiCola au poste de Coordinateur des programmes administratifs. Ainsi que nous l'avons noté dans le bulletin de décembre de la RCO, Mike doit assumer un certain nombre de fonctions de soutien pour le Directeur exécutif, ainsi que la gestion financière de la RCO.

Le Coordinateur des affaires publiques, Alex Saunders, continue à remplir ses fonctions, et aura, nous l'espérons, plus de temps à consacrer aux programmes d'affaires publiques, maintenant que Mike fait partie de l'équipe. Alex continuera à apporter sa contribution au contenu de la RCO et du Forum Optométrique, et à promouvoir les communications intérieures et extérieures de l'ACO.

La réceptionniste, chargée du traitement des textes, Annette LeFort, et la Secrétaire du Fonds de Fiducie, Deanna Verhey, continuent à faire partie de notre personnel sous la direction compétente de Ruth Wilcox, notre Administratrice du bureau et Secrétaire exécutive.

Revue canadienne d'optométrie

Au cours de l'année de publication 1981, la RCO a continué à avoir des opérations non déficitaires, tout en maintenant des normes élevées de contenu.

Bien qu'en fait elle n'ait consisté qu'en trois numéros complets ceux-ci contenaient une grande variété d'articles originaux de recherches et cliniques.

Nos rédacteurs de la RCO ont eu un plaisir particulier à annoncer la première cérémonie de collation du grade de Docteur d'Optométrie de l'Ecole d'optométrie de l'Université de Montréal dans l'édition de Mars '81. Et l'article de Septembre sur le Congrès biennal de l'ACO a donné un résumé coloré de chaque évènement aux membres incapables d'y assister.

Pour terminer l'année de publication, la RCO a eu la fierté de présenter le premier fruit issu des efforts du Programme de bourses du Fonds de fiducie des optométristes canadiens pour l'éducation, une étude sur la composition chimique des solutions pour les lentilles cornéennes, par W.M. Lyle, et V.J. Lum.

Egalement, la RCO a eu le plaisir de préter les services de son équipe de production au développement du premier rapport de la Société canadienne optométrique des lentilles cornéennes, nouvellement recréée, intitulé "Transactions", qui a été envoyé séparément à nos membres dans tout le pays peu après la fin de l'année 1981. Le rédacteur de la RCO, Maurice Manger, est heureux d'annoncer qu'une section spéciale de la RCO sera réservée dans les prochains numéros pour la suite de "Transactions", qui fera le compte rendu des activités de la SCOLC, et publiera des articles de recherche clinique relatifs aux lentilles cornéennes.

Fichiers de données informatiques

Pour tirer parti des développements récents en méthode de gestion des associations occasionnés par l'utilisation de systèmes de traitement informatique des données, le Conseil de l'ACO a approuvé le transfert des fichiers d'adhésions et d'autres données choisies dans un programme d'ordinateur.

Un excès des revenus en provenance de la RCO nous a permis de réaliser cette étape importante sans que celà coûte aux membres. Le nouveau système non seulement réduit le temps passé par le personnel de l'ACO à mettre à jour et à produire des listes d'adresses, mais encore il facilitera la réimpression des éditions futures de l'index des optométristes canadiens à un coût sensiblement réduit.

Egalement, l'ACO peut mettre à la disposition de nos associations provinciales membres des étiquettes portant les adresses de leurs membres à coût sensiblement réduit. La fonction de référence des données est particulièrement intéressante, et sera utile dans le futur, pour administrer le Fonds de fiducie des optométristes canadiens pour l'éducation, la Société canadienne optométrique des lentilles cornéennes et les autres comités connexes de l'ACO.

Programmes d'affaires publiques

Etant donné les contraintes budgetaires occasionnant une réduction des dépenses de fonctionnement pour 1981, notre programme d'affaires publiques a dû être réduit.

Par contre, nous avons entrepris de planifier les programmes d'affaires publiques de plusieurs années à venir. Les dépliants de l'ACO ont été bien acceuillis, mais des membres nous ont demandé que l'ACO mette à jour et augmente la sélection de dépliants. Par conséquent, en coopération avec le Comité de communications de l'ouest, nous avons fait des plans pour que l'ACO finance la préparation et la publication de six nouveaux dépliants en 1982. En outre, nous avons préparé un budget pour la conception et la production de trois séries audio visuelles avec diapositives sur divers aspects des soins de la vue.

L'ACO a continué, en 1981, à soutenir et à être en contact avec le

Conseil canadien de la sécurité pendant les préparatifs d'introduction du programme 55 Alive. Etant donné l'intérêt que nous avons montré, et la participation que nous avons apportée, l'ACO et ses associations provinciales membres vont bénéficier de l'introduction du programme 55 Alive et de sa publicité dans tout le pays en 1982. Nous avons communiqué la possibilité de participer personnellement à l'organisation du programme aux membres de l'ACO dans la Revue et dans les bulletins des Associations provinciales.

Le Congrès biennal de l'ACO à St. John's a reçu une bonne publicité. Des représentants de l'ACO ont accordé régulièrement à la radio et aux journaux des entrevues donnant les détails du programme du Congrès. La proclammation de la semaine "Sauvez votre vue", par le maire de St. John's, Dorothy Wyatt, a fait l'objet d'une émission télévisée à partir de l'Hotel de Ville.

Des communiqués de nouvelles furent préparés dans le courant de l'année en fonction des besoins, en particulier pour annoncer la nomination du Dr Reid MacDuff comme président pour 1981-82 à la presse Maritime et optométrique et des soins de santé.

Sigle de l'ACO

CANADIAN ASSOCIATION OF OPTOMETRISTS
L'ASSOCIATION CANADIENNE DES OPTOMETRISTES

Parmi les efforts que fait l'ACO pour améliorer l'image de l'association aux yeux des membres et du public, nous avons entrepris de rechercher un nouveau symbole graphique pour représenter l'optométrie sur les publications et le courrier officiel de l'ACO.

Après avoir reçu et examiné un grand nombre de projets d'artistes indépendants aussi bien que d'optométristes intéressés faisant partie de l'exécutif de plusieurs Associations provinciales, le Conseil de l'ACO a choisi le sigle apparaissant ci-dessous/ci-dessus, devant être présenté à titre d'essai à nos membres nationaux.

Nous avons demandé aux Associations provinciales et aux practiciens d'envoyer leurs commentaires. A date, l'Association de la Saskatchewan et celle du Nouveau Brunswick ont pris la décision d'adopter le sigle sur leur papier en-tête. La Colombie Britannique a exprimé une certaine réticence, et les autres provinces n'ont pas envoyé de commentaires. Seulement 10 membres individuels ont répondu. L'ACO essayera à nouveau d'obtenir un soutien au début de l'année prochaine, et en l'absence d'autres commentaires prendra la décision d'adopter le sigle, et de le distribuer à la presse nationale afin qu'elle l'utilise pour toute nouvelle intéressant l'optométrie.

Index des optométristes canadiens

Le travail a commencé sur ce projet majeur de 1981 au début de l'année avec l'envoi de deux mille questionnaires aux membres de l'ACO. Plus de huit cent cinquante questionnaires remplis ont été renvoyés au bureau de l'ACO, où on les a codés, et on les a fichés. Le coût de production de cet index a été entièrement couvert grâce au soutien de ceux qui ont mis des annonces, à tel point qu'il y a eu un surplus de revenus qui a servi à financer le Programme souvenir du Congrès biennal de l'ACO. Cet index est, à date, le plus complet entrepris, mais nous faisons déjà des plans pour rendre la liste par catégorie de la nouvelle édition de cet index encore plus précise et plus complète, grâce aux commentaires, réponses et critiques envoyées par nos membres actifs.

Forum de l'optométrie

Afin de répondre à leurs besoins de communication accrue, les membres de l'ACO ont demandé à l'Association, à l'Assemblée générale de St. John's, de publier un bulletin afin de les tenir au courant des développements politiques risquant d'affecter l'optométrie. Pour satisfaire cette demande, l'ACO a publié Forum de l'Optométrie, dont le premier numéro a été entièrement consacré au soutien du programme d'action politique de l'ACO. Le numéro mettait les membres au courant des contacts récents entre l'ACO et le Ministre de la défense nationale et celui des affaires extérieures, et les avisait de la réaction officielle de l'ACO à l'opposition manifestée par les ministres devant nos demandes. Des numéros seront publiés dans le futur entre deux envois de la RCO, comme les membres l'ont demandé.

L'ASSOCIATION CANADIENNE DES OPTOMÉTRISTES
FORUM DE L'OPTOMÉTRIE
Vol. 1, no 1, octobre 1981

Nouvelle école d'optométrie

Le nouveau Comité des installations universitaires de l'ACO, prévoyant une possibilité d'échec pour ses efforts de créer une nouvelle Ecole d'optométrie de l'ouest, a envisagé une alternative valable, celle d'une troisième école dans l'est.

En conséquence, on se mit à chercher un nouvel endroit dans l'est. Il s'avéra que l'Université du Nouveau Brunswick semblait considérer d'un oeuil très favorable la possibilité d'acquérir une école professionnelle d'optométrie. Des discussions ont eu lieu en 1981 pour explorer la possibilité d'offrir une option raisonnable à la profession.

L'an dernier, l'ACO a déclaré que tout progrès nouveau pour une école dans l'ouest dépendait des résultats d'une étude sur la main d'oeuvre en soins de santé, financée par les gouvernements des provinces de l'ouest. La situation n'a pas changé. Au moment où nous rédigeons le présent rapport, l'ACO ne sait pas encore si l'étude sur la main d'oeuvre financée par les gouvernements va être présentée aux Premiers pour discussion. La décision de l'ACO dépend du résultat de la discussion sur l'étude sur la main d'oeuvre.

Finances

Il y a un état sommaire de nos

Concluded on p. 46

Contrast Sensitivity Function and Low Vision

George C. Woo*

The Canadian Association of Optometrists through its educational endowment fund recently provided the funds for a custom designed contrast sensitivity function unit at the low vision clinic of the University of Waterloo. Its purpose is to enhance the capability of low vision clinicians to evaluate residual functional vision of some low vision patients where conventional visual acuity approaches fail to quantify any functional loss of vision.

The sine wave contrast sensitivity approach involves measuring the relationships between contrast sensitivity and spatial frequency for gratings which have a sinusoidal luminance profile. Contrast sensitivity is defined as the reciprocal of contrast threshold. It has been very successful in elucidating normal visual function. This approach extends the present letter acuity assessment to accurately assessing the quality of vision for objects which can be seen at a very high contrast. A wide variety of conditions which result in visual impairment can be monitored. The main thrust of the clinical investigation is to quantify loss or improvement of vision.

The new approach of measuring contrast sensitivity for object sizes within the resolution limit offers not only a more complete description of different types of visual loss but also a more sensitive method and possibly a more realistically correlated perceptual method of assessing the visual advantage of different optical aids, filters or changes in luminances for patients with partial sight. The usefulness of this approach has already been established for description and assessment of low vision patients.[1,2]

These results add to our present appreciation of the type of vision that a low vision patient experiences and may have an important bearing upon the question of when to refer the patient for medical and/or surgical care. It is suggested that the assessment of the visibility of large objects be used in the clinical environment to supplement the present acuity evaluation of low vision patients. These findings raise the more general question as to how any residual visual function should be assessed for occupational or legal needs. Is the present acuity evaluation and visual field requirement adequate to define "blindness" or partial sightedness? Assessment and specification of the intra-resolution abnormality, combined with an understanding of its suprathreshold consequences, should allow a much more adequate definition of legal blindness. When the visual loss has a purely optical basis as, for example, in cataract, visual assessment should involve measurement of the visibility of large objects as well as the limit of resolution.

Ophthalmic practitioners have long recognized the need for such a tool. Seasoned practitioners appreciate there is a vast difference in behavior between two low vision patients who have identical Snellen visual acuities. It is understood that identical visual acuities may yield substantially different visual capabilities. One simply cannot predict a low vision patient's contrast sensitivity from his acuity. This method therefore should be used for diagnosis, description and assessment of a number of primary and secondary ocular neurological conditions which are not fully understood because of the traditional limited acuity view towards visual function.

On behalf of our low vision clinic of the School of Optometry, I wish to thank the trustees of the educational endowment fund of the CAO for supplying our clinic with a very valuable tool. The newly created contrast sensitivity service will supplement other already existing diagnostic services such as VER, ERG, laser interferometry and visometry.

*O.D., PhD., Professor, School of Optometry, University of Waterloo.

References

1. Hess, R. and G. Woo, Vision through cataracts. Investigative Ophthalmology and Visual Science, Vol. 17, pp. 428-435, 1978.
2. Woo, G. and C. Dalziel, A pilot study of contrast sensitivity assessment of the CAM treatment of amblyopia. Acta Ophthalmologica, Vol. 59, pp. 35-37, 1981.

Rapport Annuel . . . . from p. 45

comptes 1981 dans ce numéro de la Revue, soumettre à votre considération. Vous pouvez poser quelques questions au directeur exécutif de l'ACO, M. Donald Schaefer.

Résumé

Le conseil et le personnel administratif de l'Association canadienne d'optométrie considèrent que 1981 constitue une année d'efforts productifs au nom de la profession d'optométriste. Nous vous sommes sincèrement reconnaissants et vous remercions tous, ainsi que les membres de vos exécutifs provinciaux et le personnel de vos associations, pour le soutien financier et opérationnel que vous nous avez prodigué pendant l'anné 1982. Nous espérons poursuivre à développer les points forts de notre organisation, afin de pouvoir assurer que l'optométrie puisse toujours faire face aux défis se posant à la profession. Nous vous remercions pour votre intérêt, et serions heureux de répondre à vos questions ou de recevoir vos commentaires.

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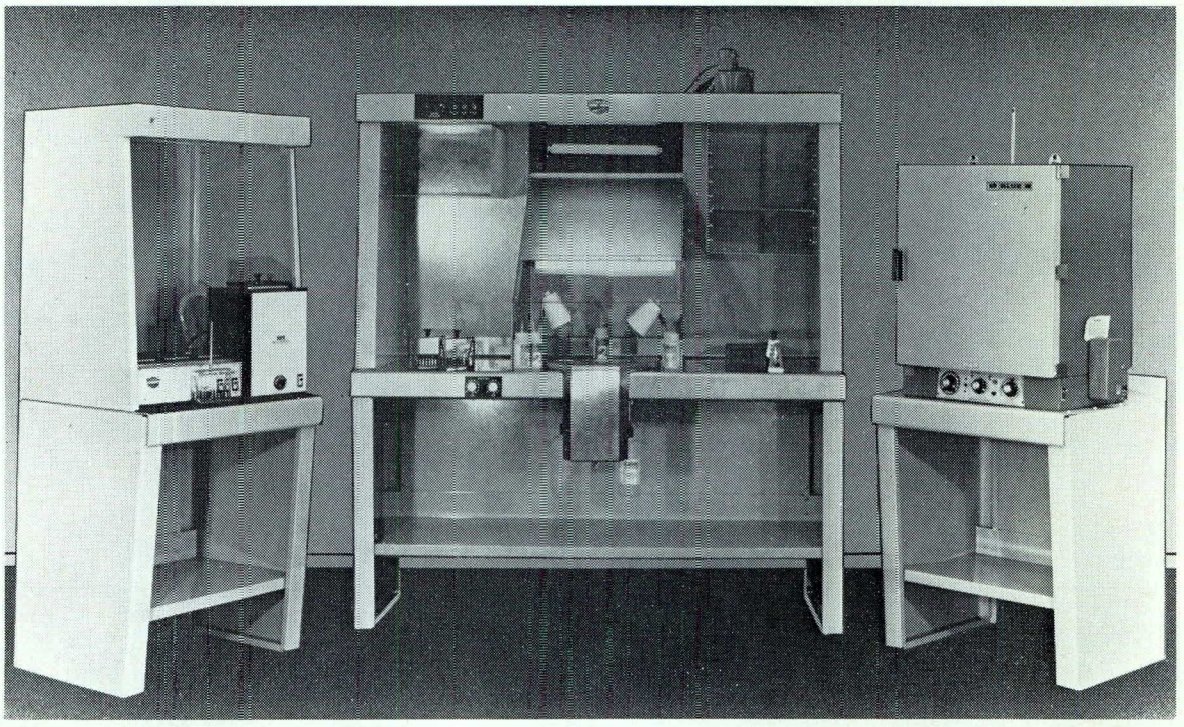

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CAO 1981 AUDITED STATEMENT

To the Members of
Canadian Association of Optometrists:

We have examined the balance sheet of the Canadian Association of Optometrists as at December 31, 1981 and the statements of income and surplus and of changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Association as at December 31, 1981 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Deloitte Haskins & Sells

Auditors

February 12, 1982

CANADIAN ASSOCIATION OF OPTOMETRISTS

BALANCE SHEET

DECEMBER 31, 1981

	1981	1980
ASSETS		
CURRENT ASSETS		
Cash	$ 8,445	$12,255
Term deposits	-	11,200
Accounts receivable	15,134	9,882
Due from Canadian Optometric Education Trust Fund	2,119	2,519
	25,698	34,856
FURNITURE AND FIXTURES	2,621	785
	$28,319	$36,641
LIABILITIES		
CURRENT LIABILITIES		
Accounts payable and accrued charges	$ 4,786	$10,687
Deferred revenue	-	476
	4,786	11,163
SURPLUS		
BALANCE, DECEMBER 31	23,533	25,478
	$28,319	$36,641

CANADIAN ASSOCIATION OF OPTOMETRISTS

STATEMENT OF INCOME AND SURPLUS

YEAR ENDED DECEMBER 31, 1981

	1981		1980	
	Actual	Budget	Actual	Budget
REVENUE				
Membership contributions - Schedule 1	$142,846	$140,965	$128,420	$142,057
Literature sales	4,279	4,500	8,122	6,480
Investment income	7,822	1,500	3,707	2,000
Canadian Journal of Optometry - Net income	12,922	13,500	9,082	75
	167,869	160,465	149,331	150,612
EXPENSES				
Bad debts	80	-	-	-
Bank charges and interest	44	75	55	75
Committee travel	17,237	11,345	1,999	12,507
Depreciation	291	1,800	1,950	1,795
Equipment rental	3,621	4,196	3,994	100
Employee benefits	5,760	4,585	5,319	3,455
Executive Director and Assistants				
General	1,060	1,000	729	550
Travel	4,597	2,825	5,922	4,365
Insurance	334	300	189	300
Legal and audit	3,985	2,315	1,860	2,000
Maintenance and repairs	1,925	1,000	1,110	660
Meetings	23,482	24,445	19,368	25,075
Miscellaneous	400	300	-	300
Postage	2,977	4,000	3,285	3,200
President				
Office	1,200	1,200	1,200	1,200
Travel	10,075	7,360	5,569	4,000
Printing and office supplies	5,624	4,000	5,325	4,000
Projects - net (income) loss	(3,649)	-	3,617	3,349
Rent, light and cleaning	6,194	7,758	7,399	7,320
Salaries	77,592	78,194	68,654	71,997
Telephone and telegraph	6,985	6,500	5,478	7,500
	169,814	163,198	143,022	153,748
NET (LOSS) INCOME	(1,945)	$ (2,733)	6,309	$ (3,136)
SURPLUS, BEGINNING OF YEAR	25,478		19,169	
SURPLUS, END OF YEAR	$ 23,533		$ 25,478	

CANADIAN OPTOMETRIC CONTACT LENS SOCIETY
La SOCIÉTE OPTOMÉTRIQUE CANADIENNE des LENTILLES CORNÉENNES

TRANSACTIONS
AND/ET
REPORTS/REPORTAGES

The Application of Selected Broadband Red Filters for Red-Green Deficiencies*

Donald J. Egan**

Abstract

This paper will review some of the various coloured filters used to aid chromatic discrimination for the red-green deficient. These range from hand-held rapid comparison devices, the so-called 'quick-specs', to daily-wear daytime spectacles or contact lenses.

Also included are a consideration of published reports, some preliminary observations with sample populations, and a discussion of the spectral transmission of selected materials as determined with the Zeiss DMR 21 spectrophotometer.

Abrégé

Ce travail passe en revue certains filtres utilisés pour rehausser la différenciation des couleurs chez les Daltonians souffrant d'une déficience rouge-verte. Ces aides varient d'appareils manuels permettant une comparaison rapide des couleurs à les lunettes ou lentilles de contact pour usage prolongé. Aussi il y a discussion de rapports déjà parus sur ces appareils, des résultats de l'utilisation par certaines populations selectionnées et de l'analyse de la transmission spectrale d'echantillons de materiaux au moyen du spectrophotometre DMR-21 de Zeiss.

Congenital red-green deficiencies have been reported to be present in 8% of the male population and ½% of the female population. Two to 3% of this 8½% are dichromats — 1% protanopic, 1% deuteranopic. Five to 6% are anomalous trichromats — 1% protanomalous, 5% deuteranomalous[1-6]. Statistically, this implies that approximately one million Canadians, or if the U.S. is considered, eleven million North Americans are red-green defective. Not included in these numbers are acquired colour deficiencies which are usually overlooked because the colour defect is secondary to a pathological condition.

Many methods of correction have been attempted throughout the years but as expected there have been no 'cures' for this genetically determined defect[3,5-8]. Proposed 'cures' were most prominent during the World War II years[7-11]. Enlistees were screened for colour deficien-

* Presented in part at the Third International Symposium on Contact Lenses, Frontenac Hotel, Quebec City, Quebec, October 10, 1981, and at OptiForum III, OptiFair Midwest, Hyatt Regency Hotel, Chicago, Illinois, June 4, 1981

** B.S., O.D., F.A.A.O., Member of Faculty, University of Waterloo School of Optometry

cies and not permitted to join military service if a failure was recorded or found on colour vision screening tests. The following is a summary of the methods of correction tried:

— eye exercises[7]
— staring at red and green lights[9,10,12] (which were flashed and/or of high intensity)
— vitamins[4,7,10] (massive doses)
— injections of iodine[7,10]
— electrical stimulation of the eyeballs[7,8,10]
— education[4,9-12] (repeated testing, colour-naming and corrective instruction)
— special diets[4] (include favourable drugs and vitamins, remove unfavourable factors, e.g., excessive tobacco and alcohol)
— change in colour illuminant[7,8,10,13,14] (the effect was to increase the relative brightness of the colours within the spectral emission provided these correspond to the range of spectral reflection of the illuminated object)
— coloured filters[3,4,7,8,10,14-17]

The coloured filters used have been classified by Dr. Schmidt of the Indiana University School of Optometry into the following categories[7,14]:

— filters for successive comparison of brightness relationships
— filters which are used for an immediate evaluation of a change in chromatic experience
— miscellaneous designs.

The first two classifications can be easily demonstrated with the use of Kodak photographic filters — Wratten filter #25 (red)[18] and Colour Correction filter CC50M (magenta)[17] while viewing a colour representation of the C.I.E. chromaticity diagram, a pseudoisochromatic plate (PIP) screening test, or red and green test objects.

For the red filter long wavelengths are passed strongly (transmitted) resulting in an apparent brightening or lightening of any 'reds' being viewed. Short wavelengths are passed weakly (absorbed) causing viewed 'greens' to appear dimmer or darker[3,7,10,14,15,17,19,20]. With the magenta filter most of the blue-green to green wavelengths are absorbed while the 'reds' and 'blues' are transmitted[8,14,17]. This spectrally selective transmission and/or absorption results in an apparent change in the chromatic experience or brightness such that for either filter 'reds' and 'greens' may be discriminated or identified[14] (see plates 1-3). The miscellaneous classification accounts for those filters which ideally could not be placed into the other two types. However, even the red and magenta filters overlap in their classification to a certain degree because all three attributes of colour (hue, saturation, and brightness) appear to be affected.

Since the 1800's coloured filters to aid colour discrimination have been fabricated in various forms — monocle, loupe, lorgnette, spectacle or contact lens[8,10,14,15,18,19]. The first three are usually for quick observations whenever the patient desires to discriminate between 'reds' and 'greens'. The last two were designed to be worn for periods of time throughout the day providing continuous information in identifying colours.

Spectacle mounted filters have been the most diversified throughout the years. They have been presented in the following ways[8,10,14,16,17,18,19,21]:

— one spectacle lens red, the other green
— half of each spectacle lens red, the other half green
— red only (tinted lens, slip-over or clip-on)
— green only (tinted lens, slip-over or clip-on)
— vertical red and green strips mounted above and below a transparent center
— horizontal red and green strips mounted to the sides of a transparent center
— multi-faceted spectacle lens with individual facets of red, violet, blue, green, yellow and/or orange
— mosaic pattern spectacle lens with individual sectors of the primary colours

The contact lenses available are less numerous but have received much more press and interest[3,22-26]. The most widely distributed contact lens is Dr. Harry Zeltzer's X-Chrom^{R*} (see plates 4-6). The only other PMMA red-tinted contact lens available in Canada is a ruby red (glassflex) lens from Dominion Contact Lens Laboratories Ltd., Toronto, Ontario (see plates 4 and 7). For both of these red contact lenses the practitioner's standard fitting philosophy[2,3,6,27] is suggested. Only spherical powers are fabricated thus any residual refractive error, presbyopic, or prismatic correction must be incorporated into an adjunct spectacle prescription[3,6,22,27]. Biomicroscopic evaluation of fit, centration and lag is stressed because fluorescein pattern analysis is too difficult if a clear trial lens is not available[3,27] (cobalt blue filtered light — red contact lens — fluorescent green tear film).

The most important part of the fitting evaluation is the screening of potential wearers. This should include a consideration of the patient's motivation and objectives. The device is inappropriate for those who desire it only to pass colour vision screening tests or falsify their results. However, it may be important to others; for example in agriculture to identify when fruits, vegetables, tobacco or other crops are ready for harvest. Other obvious applications are those occupations or avocations involved with photography, art, printing, cosmetics, textiles, etc. The screening procedure should also utilize either a hand-held filter (red spectacle trial lens[3,8,26-28] or X-Chrom screening paddle[16]), slip-over[16], or clip-on[18] to determine if

* The X-Chrom Corporation, Waltham, Massachusetts, U.S.A.; UCO Gordon Contact Lenses, Rochester, New York, U.S.A.; Corneal Contact Lens Co. Ltd., Calgary, Alberta; Plastic Contact Lens Company (Canada) Ltd., Toronto, Ontario

the red-green deficiency is aided by the presence of such a filter(see plates 8 and 9). These screening devices have a high spectral transmission of the long wavelengths and are quite effective in determining whether the practitioner should proceed with providing a contact lens or spectacle mounted filter to aid red-green discrimination.

In 'hard' (rigid) lens fabrication the dye or pigment is added during the polymerization procedure binding it such that the entire lens is tinted permanently.

For hydrogel lenses this procedure cannot be followed because as expected with the larger hydrogel design a clear periphery is desired overlying the limbus and sclera.

As a result, although the concept of a hydrogel red contact lens has had much appeal, its manufacture has been fraught with problems (see plates 11 and 12).

— the dye is not colourfast and results in its leaching out of the lens or into the periphery
— the dye may be poorly or unevenly distributed (nature of the lens matrix?)
— the colour discrimination effect is less than the X-chrom 'model'.

First generation hydrogel lens designs were the Freflex red* and Corneal red designs**(see plates 4,10 and 11). Freflex utilized a procedure where the lens is dyed in the hydrated state while Corneal's process dyes a dehydrated lens. Proprietary techniques and pending patents prevent elaboration on the specifics but the obvious goal is to fix the dye in the polymer matrix such that it wouldn't leach into the periphery or out of the lens(see plates 11 and 12).

These lenses also employed standard fitting philosophies with the only variation being that a specific pupil size is ordered relative to each patient.

The spectral transmittance curves of the four lenses described are shown in plate 13. All lenses have low transmittance throughout most of the spectrum. At the longer wavelengths, transmittance increases as expected, most notably for the X-chrom.

Theories or hypotheses on how this optical device enables a patient to discriminate colours that they previously couldn't can be summarized as:

— intensity (brightness) discrimination: The appearance of objects and their surround is compared before and after a filter is passed in front of one or both eyes. The two differently illuminated percepts are compared. Binocular vision is not necessary[3,19]
— retinal rivalry: A brightness comparison is made of dissimilar monocular impressions transmitted from one eye with a filter in place and the other eye without. The retinal images are alternately suppressed and a comparison can be made of the different inputs[1,3,4,14,18,20]
— stereoscopic lustre: The lustre phenomenon varies with hue, and colours can thus be discriminated by learning the lustre of 'reds' and 'greens' when observed with a monocularly worn filter. The fused lustre colour mixture of the two different monocular impressions depends on the hue, saturation and brightness of the objects and their surround[4,10,12, 14,15,18,20]
— isochromatic lines: Are the isochromatic lines shifted or altered in some way? A preliminary investigation indicated that the isochromatic (confusion) lines may be modified to some extent[29]

The effect could also be a combination of these phenomena. As a result it is obvious that this type of monocular correction in the form of a daily-wear spectacle or contact lens is contraindicated for patients who are monocular, have poor binocular development, or are usually exposed to reduced illumination levels[2,3,6,19,27]. The filter is typically prescribed to be worn over the non-dominant eye[2,3,6,10,26,27].

Numerous studies of the effect of red filters worn for periods of time by binocular patients are reported in the literature, most concentrating on the X-Chrom contact lens. These along with some observations at the University of Waterloo School of Optometry are summarized below:

Visual acuity — unchanged[13,19, 30-33] to 'minimal'(?) decrease[1,2,3,27,30,31,33] (20/25 - 20/40)

Binocular vision/stereopsis — unchanged or rapid adaptation[1,3,18,19,32,33] to decreased response[34]

Fixation disparity — none induced/no effect[3,19,32]

Aniseikonia — inconclusive - Ciuffreda[35] found the image size for the filtered eye (X-Chrom) of a 'normal' subject to be 0.2% smaller than the non-filtered fellow eye

Pulfrich stereophenomenon — observed[1,3,19, 29,33,35] – some reports suggest a reorientation or adaptation of the visual system[3,35,36] occurs while others demonstrate a decreased response[32] or very little adaptation[33]

Distortions of speed, distance and size — When a filter is placed over one eye the visual latency results in moving objects viewed on that side appearing to be closer, smaller and moving slower than they actually are. The opposite is apparent for the non-filtered side. Though discussed in the literature[14,20,37,38] this phenomenon has not been investigated with red filters.

Performance on colour vision screening tests — Mixed reports fail to totally support or not support claims on the ability of red-green defectives to

Text Cont'd on p. 56

* Freflex Canada Contact Lenses, Toronto, Ontario
** Corneal Contact Lens Co. Ltd., Calgary, Alberta

Description of Colour Photographs

1. Plate 14 of the Ishihara pseudo-isochromatic series of plates designed as a test for colour blindness.
2. Ishihara plate 14 photographed with a Kodak #25 Wratten filter. Long wavelengths are transmitted resulting in an apparent brightening or lightening of 'reds' while absorbed short wavelengths cause 'greens' to appear dimmer or darker.[14]
3. Ishihara plate 14 photographed with a Kodak CC50M colour correction filter. A chromatic shift to yellow or a lightening is expected if red is present while a chromatic shift to gray or a darkening occurs if green is present[14].
4. Samples of red contact lenses. From left to right: X-Chrom, Freflex red and Ruby red.
5. Monocular view of a subject wearing An X-Chrom contact lens.
6. Binocular view of a subject wearing an X-Chrom contact lens.
7. Binocular view of a subject wearing a ruby red contact lens.
8. Red spectacle trial lens common to most trial sets.
9. An X-Chrom screening paddle available from the X-Chrom Corporation, 57 Grant St., Waltham, Massachusetts, U.S.A. 02154.
10. Binocular view of a subject wearing a Freflex red contact lens.
11. A 12 month old Corneal red hydrogel contact lens when the dye has leached into the periphery and is poorly distributed centrally.
12. A 12 month old Freflex red hydrogel contact lens from which some of the dye has leached out of the lens.
13. Spectral transmittance of represented lenses (X-Chrom/-Dominion Ruby Red/Freflex Red/Corneal Red) as determined with the Zeiss DMR 21 spectrophotometer. These transmittance values should be adjusted 3-5% higher to compensate for the reflectance difference when the lens is worn on the eye vs. measurements in the air with the spectrophotometer.
14. Plate 2 of the Ishihara pseudo-isochromatic (colour confusion) test. The normal trichromat response is the number 8. Persons with red-green deficiencies report a 3 or cannot read a number[43].
15. Plate 2 of the Ishihara pseudo-isochromatic test photographed with a Kodak #25 Wratten filter.
16. Plate 25 of the Ishihara pseudo-isochromatic test. This plate is one of those included to classify the degree of the defect. The normal trichromat response is the number 96. Persons with protanopia and strong protanomalia report only the 6 or if mild protanomalia both numerals but the 6 is clearer. In the case of deuteranopia and strong deuteranomalia only the 9 is reported or if mild deuteranomalia both numerals but the 9 is clearer[43].
17. Plate 25 of the Ishihara pseudo-isochromatic test photographed with a Kodak #25 Wratten filter.
18. Plate 13 of the AO H-R-R pseudoisochromatic (saturation discrimination) plates. This plate is one of those included to classify the defect as medium. A circle and triangle are reported by the normal trichromat while the protan reports only a circle and the deutan ony a triangle.
19. Plate 13 of the AO H-R-R pseudoisochromatic plate photographed with a Kodak #25 Wratten filter.
20. Plate 15 of the AO H-R-R pseudosiochromatic plates. This plate is one of those included to classify the defect as strong. An X and circle are reported by the normal trichromat while the protan reports only an X and the deutan only a circle.
21. Plate 15 of the AO H-R-R pseudoisochromatic plates photographed with a Kodak #25 Wratten filter.
22. Farnsworth Dichotomous or Panel D-15 (colour confusion) test.
23. Farnsworth Dichotomous or Panel D-15 test photographed with a Kodak #25 Wratten filter.
24. Farnsworth-Munsell 100-Hue (hue discrimination) test.
25. Farnsworth-Munsell 100-Hue test photographed with a Kodak #25 Wratten filter.
26. Farnsworth F2 Pseudoisochromatic Plate. The normal trichromat reports two overlapping diamonds or squares with the yellow-green one appearing clearer or brighter than the blue one. Red-green defectives only report the yellow-green square[7,44].
27. Fransworth F2 Pseudoisochromatic Plate photographed with a Kodak #25 Wratten filter.
28. Holmgren Wool (colour confusion) test Set No. 235. Seventy-two small skeins are matched by their resemblance (lighter or darker shades) to 3 large control skeins (green/-lavender/red). Confusion colours are present so that a poor red-green discriminator is easily identified.
29. Holmgren Wool test Set No. 235 photographed with a Kodak #25 Wratten filter.
30. Plate 3 of the City University Colour Vision (colour confusion) test. Each plate consists of 5 coloured dots on a matte black background. The subject is instructed to select from the 4 surrounding dots the one that most resembles the central dot. The normal trichromat selects the top one while the protan selects the bottom dot and the deutan the dot to the right[45].
31. Plate 3 of the City University Colour Vision test photographed with a Kodak #25 Wratten filter.
32. Suggested spectral transmittance of protective devices for 'RP' patients[40].
33. Samples of Ciba's "first generation" of red hydrogel contact lenses.

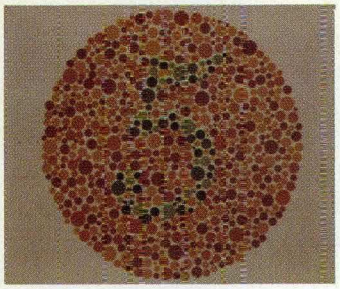

Fig. 1

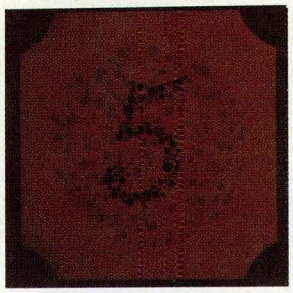

Fig. 2

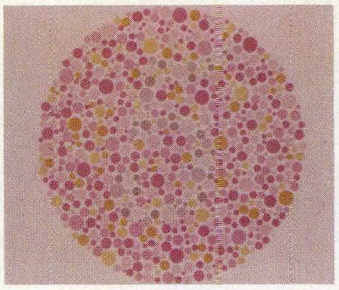

Fig. 3

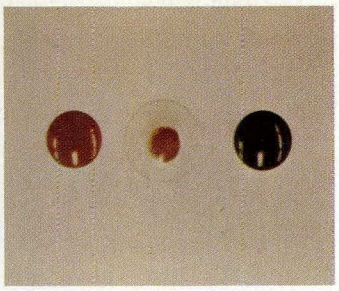

Fig. 4

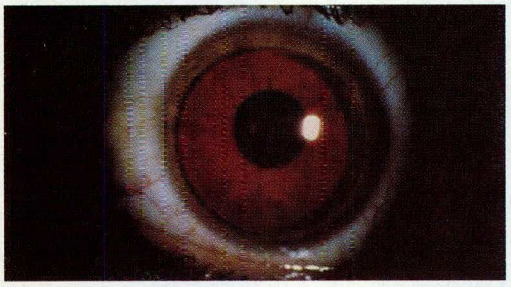

Fig. 5

Fig. 6

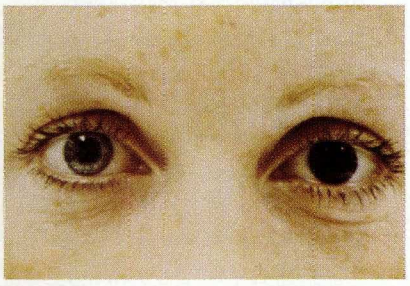

Fig. 7

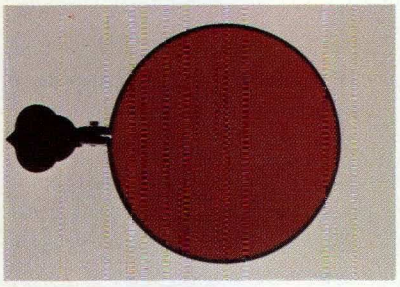

Fig. 8

Fig. 9

Fig. 10

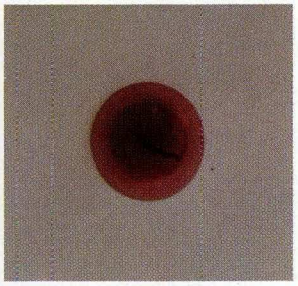

Fig. 11

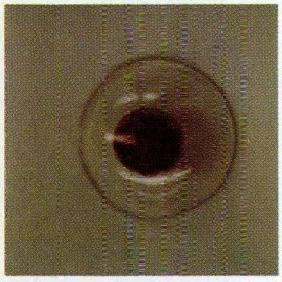

Fig. 12

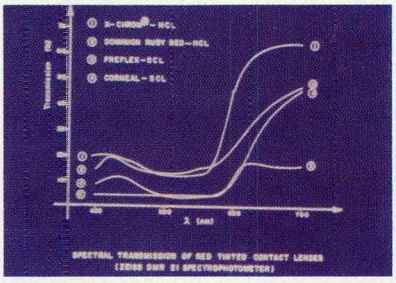

Fig. 13

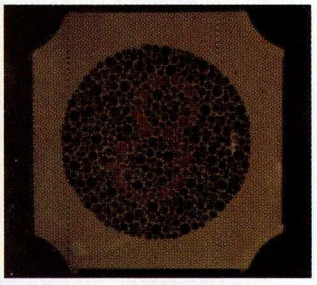

Fig. 14

Fig. 15

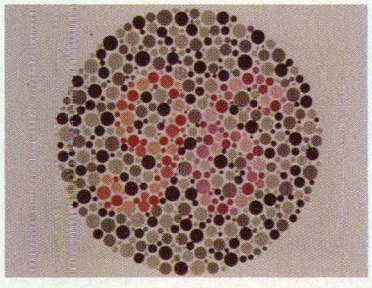

Fig. 16

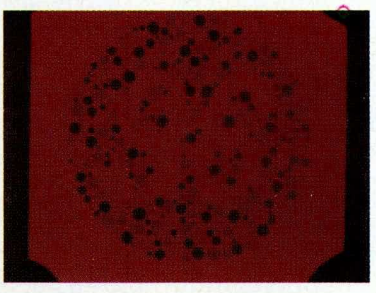

Fig. 17

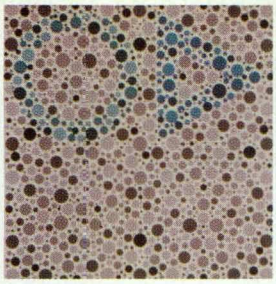

Fig. 18

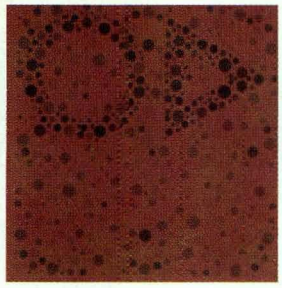

Fig. 19

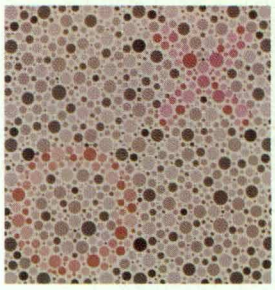

Fig. 20

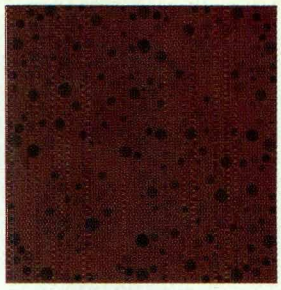

Fig. 21

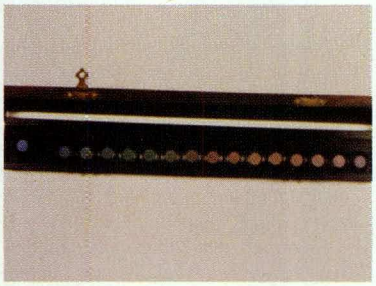

Fig. 22

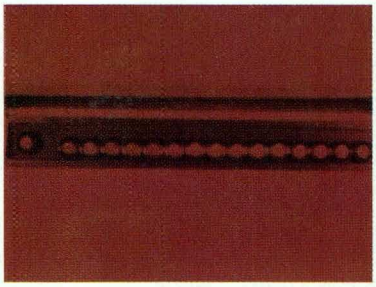

Fig. 23

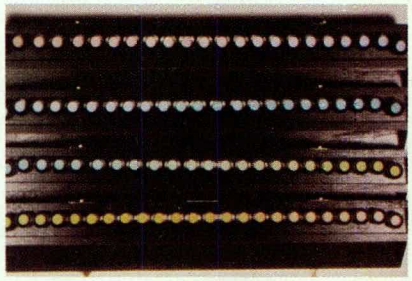

Fig. 24

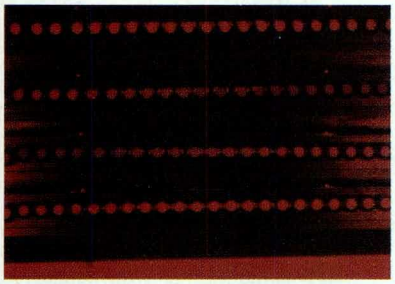

Fig. 25

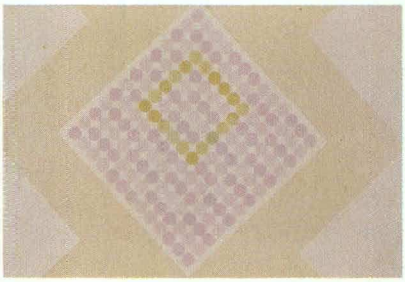

Fig. 26

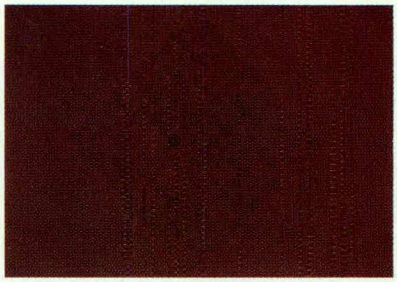

Fig. 27

Fig. 28

Fig. 29

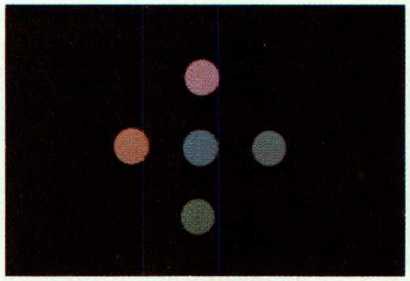

Fig. 30

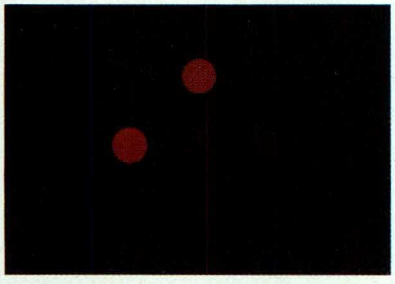

Fig. 31

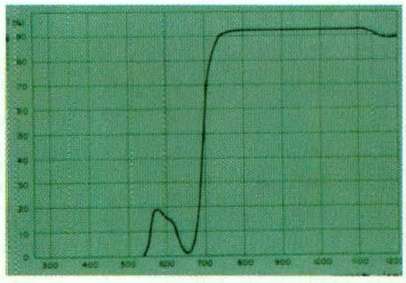

Fig. 32

Fig. 33

discriminate or identify previously confused colours[2,3,10,14,16,18, 19,26,28,30-34].

In summary, the overall performance on pseudoisochromatic plate tests usually demonstrated some improvement (fewer mistakes or reclassification to a less severe defect) whereas results on hue discrimination or colour confusion tests and lantern tests demonstrated little improvement, no change, or a poorer performance. In essence, the results seem to indicate no real increase in the number of colours or shades a red-green defective can discriminate.

The effect of a red filter when viewing typical colour discrimination tests is as expected. Recall that for the wavelengths transmitted viewed objects of comparable colours will appear brighter or lighter. For wavelengths absorbed, objects of comparable colours will become dimmer or darker. Readers are asked to judge for themselves by inspecting plates 14 - 31 what happens when one views the Ishihara, AO-HRR, D-15, 100 Hue, F2, Holmgren yarn, and City University colour vision screening tests with a red filter. Are the confused colours easier to sort out? It can be readily seen that some changes do occur and if these are put into a proper perspective the following statement seems appropriate — any change in colour vision may be interpreted by a patient as an improvement when, in fact, there is no improvement in colour discrimination.

A review of the above observations and studies indicates the need for further investigation, more specifically, a scientific study of the effect of red filters on the isochromatic lines, contrast sensitivity function, stereo acuity, stereoscopic thresholds, chromatic aberration and dissimilar retinal luminances, i.e. Pulfrich stereophenomenon, distortions of speed, distance, and size, etc.

Just as red hydrogel lenses were starting to look promising both companies due to other priorities decided to shelve their development. Fortunately, Ciba Vision Care has developed a "new generation of dyes and a non-leachable process"*. Their interest in red lenses was initiated by reports of using red lenses as an aid in the treatment of pigmentary retinal degeneration (retinitis pigmentosa)[39-42]. The hypothesis is that the rods' rhodopsin breakdown-photoresynthesis process is defective because of rhodopsin's exaggerated sensitivity to normal levels of illumination[42]. To decelerate or even possibly halt the degenerative process a filter is suggested which will reduce the overall illumination providing maximum rod protection while maintaining adequate colour vision and visual acuity[40,42]. Because the rods are extremely sensitive to wavelengths less than 540 nm Adrian and Schmidt suggest a filter that provides no transmission less than 540 nm, minimal transmission from 540-640 nm for colour vision and maximum transmission at the red end of the spectrum[40](see plate 32). This spectral transmission being high in the long wavelengths may have application as a red filter for red-green deficients but more importantly Ciba hopes they will be able to match any transmission curve thereby providing any shade red lens desired(see plate 33).

* Personal communication from Mr. Syl Ghirardi, Marketing Director, Ciba Vision Care Inc., Mississauga, Ontario

In conclusion, I wish to stress that the purpose of this paper has not been to advocate or discourage the use of red filters for red-green deficiencies but rather to supply information to those practitioners interested in them.

Note: Subsequent to this initial presentation Veracon Inc. of Sherbrooke, Quebec has informed the author that they will provide upon request a ruby red tinted rigid (PMMA) contact lens which can be used as an aid for red-green colour discrimination. The spectral transmittance as determined with the Zeiss DMR 21 spectrophotometer of a sample lens was approximately 35% for the long wavelengths of the visible spectrum.

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Acknowledgements:

My sincere appreciation to Dominion, Freflex, Corneal, and Ciba for providing the lens materials; Dr. R. Chou for opeating the Zeiss DMR 21 Spectrophotometer; and Drs. K. Robertson. and E. Kolb for their assistance. Thanks to H. Von Harpe, A. Weber, K. Rummell, and Drs. M. Callender, W. Adrian, T. Allen, R. Gaucher, and W. Derus for their contributions to the slide presentation and to V. Cook for the typing.

Erratum

There were two errors in the article *Chemical Components of Contact Lens Solutions*, by V.J. Lum and W.M. Lyle, published in the December, 1981 C.J.O.:

i) P.143, Table 2: Soaking solutions should read 5 ml/day instead of 5 ml/week.

ii) P.147: Soft Lens Comfort Drops are made by Barnes-Hind, and not by Alcon/BP as shown.

BOOK REVIEWS

SPORTS VISION by: Leon Revien O.D. & M. Gabor
Workman Publishing New York 1981
Saunders Publishers Toronto 1981
(paperback)

In a recent survey of new titles in the York County Library my attention was drawn to the book Sports Vision by Leon Revien O.D., subtitled Dr. Revien's eye exercise program for athletes and co-authored by Mark Gabor. This slim paperback (127 pages) is a "do-it-yourself" vision training manual. There are many pictures of famous athletes in the various sections of the book with quotations relative to aspects of vision related to such sports as baseball, basketball, football, hockey, tennis and golf. In introducing his topic the author asks, "Why train your eyes?" and answers the question saying, "Your visual skills are always capable of being improved throughout most of your life." He then defines these skills as: accommodation, acuity, convergence, depth perception, peripheral vision, span of recognition, speed of recognition all of which, he states, are trainable. A few superlative statements are made such as "The average person utilizes only 30 to 40 percent of his or her visual potential" and causes one to ask, "How was this figure determined and who is represented as this average person?"

The authors then provide a motivational section which concludes by saying, "Vision training for you may well make the difference between winning and losing, between reveling in keen competition or shrinking from it."

The reader is then instructed how to establish a routine for training. I was chagrined that no mention was made of having a thorough vision assessment before training commenced since an existing muscular problem or refractive error might prejudice the outcome of the skills training exercises subsequently outlined. There would be little difficulty for a literate reader understanding how to proceed with a training routine or in making those items needed to carry out the "eye exercises." Most, if not all the procedures described would form part of the techniques and resources used for home vision training prescribed by optometrists.

The two concluding chapters of the book are a disappointment since the chapter titled visual aides concentrates on contact lenses, only pointing out the problems of spectacles. There is no mention of requirements for eye protection in any of the sports despite the fact that in the photos of prominent athletes in football, baseball and hockey all appear in protective gear including helmets and face masks. The lack of mention of protective eyewear for racket sports despite the fact that several thousand eyes have been lost in the U.S. and Canada over the past few years is unforgivable in a book which otherwise is a useful book to motivate persons atheletically involved.

The chapter on nutrition, while well-intentioned, should have been omitted. It would have been better to advise the reader to consult a professional nutritionist for a diet designed for him or herself and taking into account personal health status, physical activity and present diet rather than advocating vitamins A, B and other so-called health foods.

Despite its shortcomings I think this book, with the chapter on vitamins removed, would form a useful office book for patients with sports interests or to motivate youngsters with binocular problems when vision training and orthoptics are recommended as therapy.

M.E. WOODRUFF, O.D. PhD.
Consultant, Dept. of Health
Government of New Brunswick
Box 6000, Fredericton, N.B. E3B 5H1

COSMETIC CONTACT LENSES AND ARTIFICIAL EYES, Contact Lens Research and Training Institute, Aligarh, India; published by Delhi University Press, Delhi, 240 pp., Illustrated, $40.00

This new text should be well-received by practitioners specializing in contact lens fitting. The contents fill a large void in the contact lens literature as there are very few up to date clinical writings on the topic of ocular prostheses and cosmetic contact lenses.

The text begins with a cursory review of ocular and orbital anatomy and physiology, followed by a clinical analysis of the assessment of the prospective prosthetic lens wearer. These chapters help to orient the reader in his approach to prosthetic lens fitting.

The next 11 chapters deal with the various options of treatment available to these patients. The options include surgery, cosmetic iris contact lenses, scleral contact lenses and artificial eyes.

The section on contact lens fitting is rather rudimentary but a necessary inclusion in the text for thoroughness.

The most welcome aspect of the text includes the scleral lens fitting descriptions which are very clinically oriented and simple to follow, and the extremely interesting discussion of artificial eyes.

The year of experience of Drs. Kumar and Krishna are clear in these chapters. The types of materials used in artificial eyes and the variety of forms and fitting techniques are presented. It appears that the authors had some difficulty in categorizing the material but a diligent reader who studies the diagrams in conjunction with the text will gain a full understanding of the topic. The reader should be aware that some of the coloured figures are misplaced in the sequence of the written text.

Perhaps the most fascinating reading comes in chapter 13 in which problem cases are reviewed. Methods of dealing with ptosis and difficult palpebral aperture sizes are discussed in a clinically oriented fashion.

The remainder of the text deals with manufacturing procedures, patient instruction, complications, and the rehabilitation of the one eyed patient. The text is completed by an appendix, bibliography, short glossary and index.

In general the book is an easy to read clinically oriented text which takes a fascinating look at the subject of ocular prosthesis. It is recommended for interested contact lens practitioners.

Joshua E. Josephson,
B.Sc., O.D., F.A.A.O.,
Toronto, Ontario

ESSENTIAL OPHTHALMOLOGY, Hector B. Chawla; Churchill Livingstone (Academic Press) Toronto, 1981, $15.95, 167 pp.

This softcover edition differs from other standard ophthalmological textbooks. It is written by a British ophthalmic surgeon whose literary style offers a fresh approach to the subject. His wit and humour make for enjoyable reading.

The first two chapters review the ocular anatomy and physiology. Chapters 3 and 4 are involved with the examination procedures concerning patient complaints and how to elicit essential signs. The remaining chapters run the standard gamut of ocular problems in a simplified explanatory manner. The author stresses that the eye is no different from any other organ. When the simple physiology is upset, "patients complain, doctors interfere and the only difference is where it all happens". His secret to the basic examination is to examine all eyes in the same way every time.

The book is filled with beautiful clichés, sarcastic and witty phrases. One could write a review on these statements alone. For example, the writer, in describing treatment of a meibomianitis with hot compresses, jokingly says to "bathe the lower eyelid by the lower rim of a hot cup in between mouthfuls of tea". Topping them all, however, is his comment on cataract extraction, "there are many similarities between obstetrics and ophthalmology -not least the delivery of a reluctant object through an orifice that seems ridiculously small until the last moment".

Although this text may not rank with the many encyclopedias of "eyeballs" as a standard textbook, the material is presented in a most practical manner and offers the practitioner a concise explanation of the many ocular problems reviewed by the author.

Joseph Mittelman, O.D., FAAO.

HANDBOOK OF ORTHOPTIC PRINCIPLES by G.T. Willoughby Cashell, and Isobel Durran, Churchill Livingstone Publishers (Academic Press, Canada), Toronto, 4th ed., $17.20.

This is a book written by a British ophthalmologist and an orthoptist, primarily aimed at the ophthalmologist, and ophthalmology resident.

The text leads in a logical sequence from basic anatomical and physiological development of binocular single vision, through diagnostic techniques, and then, treatment of anomalies of the binocular system.

Chapters 1, 2 & 3 lucidate the genesis of binocular vision and methods of determining any problems with the system.

The cover test is deservedly described in great detail along with other tests commonly performed in assessing binocular function. Especially well covered is the investigation and management of heterophorias.

Chapter 5, deals with anomalies of the accommodative and vergence systems and their treatment.

Chapters 6-13 describe in good detail, from first principles, the etiology both motor and sensory of strabismus.

Different types of strabismus are covered as well as their associated sensory defects.

Chapter 7 is devoted entirely to amblyopia; classification, investigation, management and prognosis.

The last part of the text deals with the surgical and non surgical treatment of different types of strabismus in a reasonably comprehensive fashion. Both diagnosis and treatment are discussed.

For those practitioners who do not, or would like to do more strabismus or binocular vision work, this is an excellent text.

The information is concise, but reasonably detailed, and presented in an easily understandable manner from first principles.

Some confusion may arise over slight differences in terminology between Britain and North America regarding sensory anomalies, but these can be easily overcome.

Dr. Brian Levy
Toronto, Ontario

CONTACT LENSES, VOL. II by Janet Stone & Anthony Phillips, Butterworths, Inc., Woburn, MA., $79.95 (U.S.)

This is an excellent textbook for both practitioner and student alike dealing with many recent soft lens materials, advanced lens fitting techniques and post fitting care. The authors have gathered and edited material from several well known international contact lens practitioners and compiled it into this text.

The opening chapter of Volume 2 is devoted to contact lens materials which I found helped me to a better understanding of the chemical composition of lens materials available to the professional in the care of his or her patients.

Dr. R.H. Rengstorff also contributed an interesting and educational chapter on refractive changes after wearing contact lenses which has useful application in Optometric practise in arriving at more accurate prescriptions for Spectacle therapy in contact lens wearers.

As in Volume 1, the colour plate section is outstanding with a wide range of photographs presented, covering alignment and centration of toric hard lenses to physical problems arising from the implementation of soft contact lenses.

A section devoted to the fitting of toric contact lenses is contained, describing all aspects and considerations in the design and fitting of this more complex but necessary form of contact lens therapy.

Although printed in England the contents of the text in many instances are truly international and are easily applicable to the state of contact lens technology in Canada.

G.A. Grant, O.D.
Waterloo, Ontario

Erratum

In the Canadian Optometric Contact Lens Society supplement to Volume 43, No. 4, the following acknowledgement was inadvertently omitted from the article entitled "The Effect of Cleaning Soft Lenses on the Curvature of Various Commercially Available Soft Lenses" by N.F. Burnett Hodd and G. Haig-Brown:
"Published in the Journal of the British Contact Lens Association."

We apologize for this omission.

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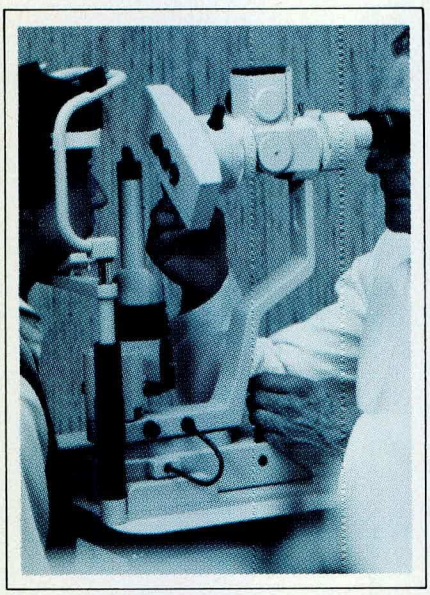

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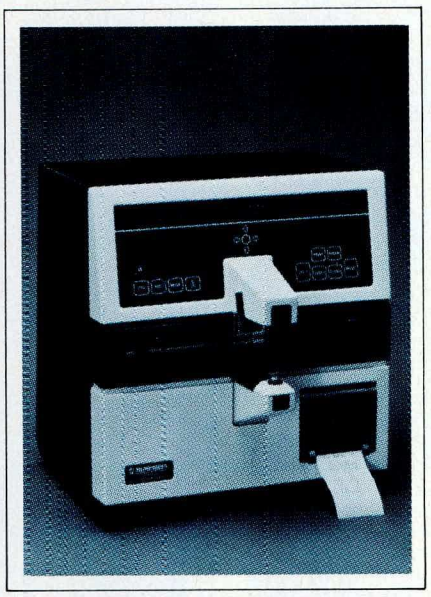

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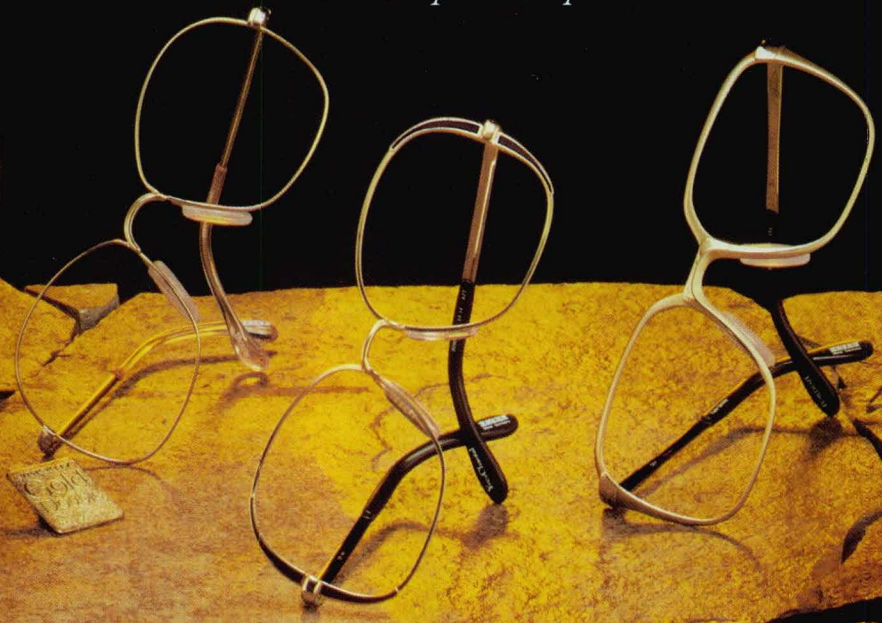

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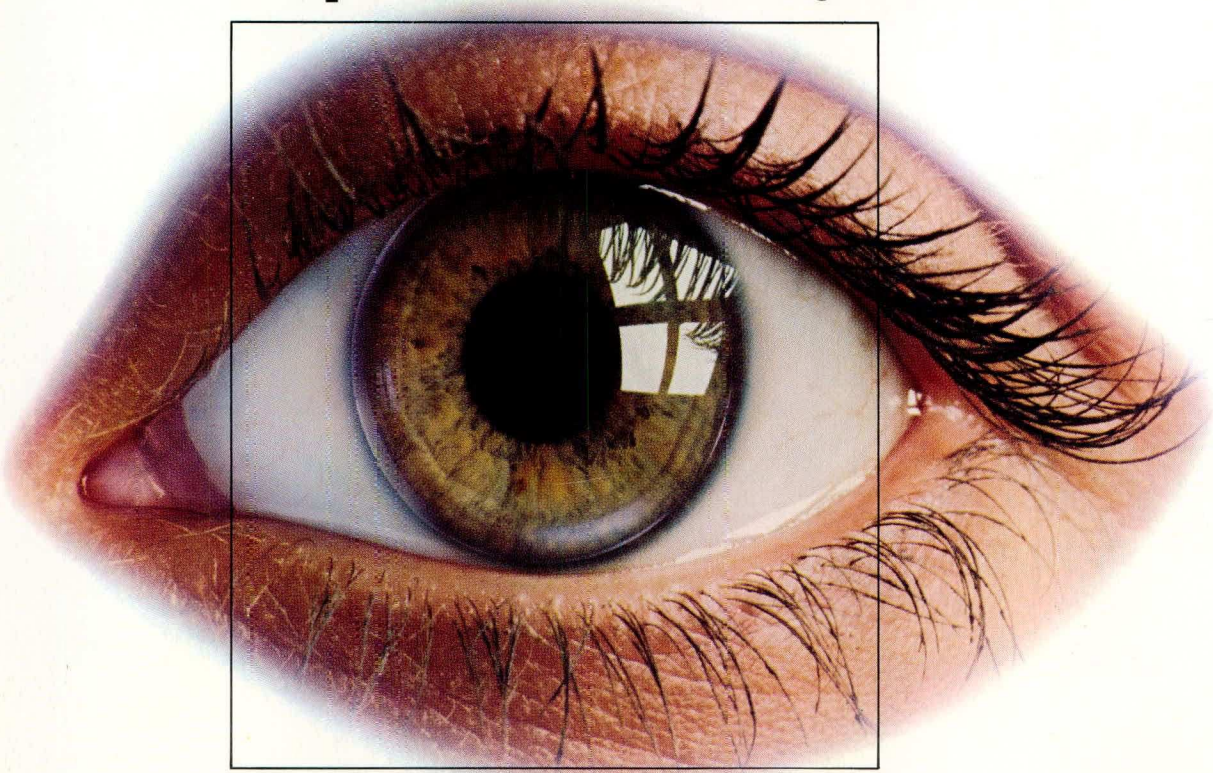

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