

Appendix B.—Major Contact Lens Manufacturers, Methods of Entry, and Acquisitions and License Agreements

Bausch & Lomb

Method of entry: Entered de novo in daily-wear soft lenses in 1971, using exclusive licenses obtained from National Patent Development Corp. (NPD) in 1966 to produce and sell soft lenses made of basic hydrophilic polymer developed in Czechoslovakia and to use spin-casting production method also developed in Czechoslovakia.

Acquisitions: Bausch & Lomb acquired design for toric soft lenses from *Milton Roy Co.* when that firm went out of business in 1979 and sold its manufacturing facilities to Bausch & Lomb. Recently acquired worldwide rights to two soft lens tinting processes from Leroy Meshel, *M. D.*, of California. In October 1983 Bausch & Lomb acquired *Polymer Technology Corp.*, a maker of gas-permeable lens material and lens care solutions.

Revlon (Barnes= Hind/Hydrocurve)

Method of entry: Acquired number three firm in contact lens industry, *Continuous Curve*, in August 1980.

Other acquisitions: Acquired *Coburn Optical Industries (1975)*, maker of plastic and glass eyeglass lenses and interocular lenses. In 1976 acquired *Barnes-Hind Pharmaceutical*, major producer of lens care products. Continuous Curve and Barnes-Hind operations combined to form Barnes-Hind/ Hydrocurve. Revlon has been licensed by National Patent Development Corp. (NPD) to manufacture and sell soft lenses, after NPD's successful suit for patent infringement in 1982.

CooperVision (controlled by Cooper Laboratories)

Method of entry: Entered de novo. Created from formerly wholly owned subsidiary of Cooper Labs in 1980.

Acquisitions: In June 1983, acquired UCO *Optics* from Union Corp., giving CooperVision 15 percent of overall soft lens market and number two position in industry. Before acquisition CooperVision had 8 percent of market and was tied for number four position with American Hydron; UCO Optics had 7 percent and was ranked number five. In 1980, acquired *Smith, Miller & Patch* and Flow *Pharmaceuticals* from Cooper

Labs; also acquired *Global Vision*, a soft lens maker, from Cooper Labs. In 1981, bought C.V. *Labs Ltd.*, a British lens manufacturer, and *International Lens Corp.*, which holds patents on cast molding lens manufacturing process.

Syntex Corp. (Syntex Ophthalmic)

Method of entry: Acquired *Polymer Optics*, maker of the polycon gas-permeable lens, in 1977.

Acquisitions: In November 1978 acquired *Corneal Sciences, Inc.*, maker of soft lenses. In May 1983 acquired *Salvatori Ophthalmics*, maker of soft lenses, obtaining a daily wear lens, and extended wear and bifocal lenses then in FDA approval process. Prior to this acquisition, Syntex had daily wear and gas-permeable lenses only, and was developing toric and bifocal lenses.

National Patent Development Corp. (American Hydron)

Method of entry: Entered de novo. Company formed by NPD in 1978.

Acquisitions: Acquired original patents for soft lens hydrophilic polymer and spin-casting production method from Czechoslovakian Academy of Science in 1964. Sublicensed Bausch & Lomb to manufacture soft lenses by spin-cast method. Has reacquired some rights to make soft lenses via spin-casting, and some rights to the cast molding process through partial acquisition of *international Lens Corp.* stock in 1973. International Lens subsequently bought by CooperVision. American Hydron has entered *joint ventures* with French, Japanese, Canadian, and English firms to market products in those countries. As a result of successful infringement suits, NPD receives an 8 percent royalty on lens sales from Revlon, Johnson & Johnson (Vistakon), Ciba-Geigy, Nestle (Alcon), Channel-Lombart, Schering-Plough (Wesley-Jessen), and American Optical. Also has a *joint venture (1983)* with *American Hospital Supply* (American Medical Optics) to develop extended-wear soft lens.

Schering-Plough (Wesley-Jessen)

Method of entry: Acquired *Wesley-Jessen* in 1980, number seven in industry at that time.

Other acquisitions: None.

¹Parent company is listed first and acquired companies are in italics.

American Hospital Supply (American Medical Optics)

Method of entry: Acquired Heyer-Schulte in 1974. Created American Medical Optics around contact lens technology acquired from Heyer-Schulte.

Other acquisitions: *Sauflon International* in 1978. **Joint venture** with NPD in 1983 to develop extended wear lens. Majority of current sales are to Bausch & Lomb, which markets American Medical Optics' extended-wear lens for aphakic and cosmetic use.

Ciba-Geigy Corp. (Ciba Vision Care)

Method of entry: Formed *joint* venture with *Titmus-Eurocon* (West Germany), Europe's largest maker of contact lenses, to sell Titmus-Eurocon products in the United States (1980). In 1983, Ciba-Geigy Corp. purchased *Titmus-Eurocon*.

Other acquisitions: None.

Johnson & Johnson (Vistakon)

Method of entry: Acquired *Frontier Contact Lenses* (now Vistakon) in 1981. Frontier Contact Lenses ranked ninth in soft lenses market at time of acquisition.

Other acquisitions: Purchased *Iolab Corp.*, a maker of interocular lenses.

Danker Laboratories

Method of entry: Entered de novo (1958). Company makes hard and gas-permeable lenses only.

Acquisitions: Purchased hard lens and solutions business from *Milton Roy* in 1979. May have acquired some technology in gas-permeable lenses through this acquisition.

Dow Corning (Dow Corning Ophthalmic)

Method of entry: Purchase of lens technology from Bregger in 1972. Dow Corning itself is a joint venture of Dow Chemical Corp. and Corning Glass; created Dow Corning Ophthalmic to market silicone contact lenses.

Acquisitions: *Calcon Labs (1978)*; thereby obtaining Gelflex, the material used in daily-wear lenses made by Dow Corning. (Currently suing Danker Laboratories for patent infringement as a result of latter's introduction of 100 percent silicone lenses.)

Channel- Lombart

Method of entry: Acquired *Lombart Lenses*, largest maker of hard lenses, from American Sterilizer Corp. in 1982.

Other acquisitions: None.

Rynco Scientific

Method of entry: Entered de novo in 1962. Produce mostly gas-permeable lenses; may also make hard lenses.

Acquisitions: Three, perhaps four small lens manufacturers. CAB (cellulose acetate butyrate) gas-permeable technology may have come from these acquisitions.

Maurice Cunniffe and Rudolf Wood (American Optical Co.)

Method of entry: Acquired *American Optical Co.* in 1982 from Warner-Lambert Corp.

Other acquisitions: American Optical and then-parent Warner-Lambert were licensed for 17 years, beginning in 1973, to make and sell soft contact lenses of material developed by Frigitronics, Inc. Warner-Lambert paid royalties to Frigitronics. When American Optical was sold to Cunniffe and Wood, Frigitronics would not allow Warner-Lambert to automatically transfer licenses to new owners. Until this dispute is settled, American Optical will act as a contractor to Warner-Lambert, who will continue to be responsible to Frigitronics for royalties. Warner-Lambert also is paying 8 percent royalties to NPD.

Frigitronics

Method of entry: Hard lenses—acquisition of *Precision-Cosmet Co.* in 1969; soft lenses—acquisition of *Griffin Labs* (now Frigi-Griffen labs) in 1971. Frigitronics markets both hard and soft lenses through Precision-Cosmet Co.

Other acquisitions: In 1980 acquired *Custom Contact Lens Lab*, maker of hard contact lenses. Some other firms also acquired, possible makers of contact lenses. Also acquired *Bensons (1969)* and *House of Vision (1982)*, two optical chains, with a combined total of 400 outlets.

Nestle (Alcon)

Method of entry: Acquired *Alcon* in 1977.

Other acquisitions: *Burton Parsons & Co.*, a maker

of lens care products (1979) and **Scanlens**, a Swedish contact lens maker (1982).

Sources

Contact Lenses, Vision Press International, Sylmar, CA, May 1982.

Davidson, S., "Market Data Book," unpublished, Dow Corning Ophthalmic, Norfolk, VA, 1983.

Manns, A., Bausch& Lomb, Inc., Rochester, NY, letter and data packet, July 15 and Nov. 23, 1983.

Moody's Industrial Manual, 1982, vols. 1 and 2 (New York: Moody's Investor Service, 1982).

Schwarz, L., and Temple, D. K., **Contact Lens Industry-Shakeout Continues** (New York: Salomon Bros., Inc., 1983).