



[Understanding Vision](#) Oct 16, 2017

Ophthalmic Optics Today: How Optical Consultation Has Changed Over the Past 10 Years

Volker Meyer and Heinrich Rath from Aalen University in Germany, spoke with BETTER VISION.

In the 13th century, Italian monks fashioned the predecessors of our modern eyeglasses from partially-ground lenses made of beryl crystals found in the mountains.

> Much has changed since then with regard to the development of vision aids. Vision problems can be solved in more individualized ways than ever before and measurement methods are constantly becoming more precise. But what are the latest developments and trends in the area of optometry? To find out, BETTER VISION asked two lecturers who teach Optometry at Aalen University in Germany.



Volker Meyer, qualified optometrist, has run his own business in Bruchköbel (near Frankfurt am Main, Germany) since 1995. He has worked as a lecturer at Aalen University for ten years, where he teaches business administration, marketing, as well as consultation and sales. He is also an instructor at the ZEISS Academy and leads various working groups that give optometrists an opportunity to discuss their experience.

BETTER VISION: Mr Meyer, Mr Rath, how has the job of an optometrist changed over the past ten years? How has their training changed?

Volker Meyer: It's important to note that optometry has become a differentiated field over the last ten years. On the one hand, eyeglasses are constantly being offered at ever lower prices; while on the other, professional optometrists are becoming more specialized and offering top quality, as well as sophisticated, customized vision solutions. Similar developments can also be observed in other product areas.

A second trend is that some optometrists are focusing more on fashion, while others are specializing more in eyeglass lens technology.

Heinrich Rath: It's possible to specialize in eyeglass lens technology to this extent because the equipment has undergone further development in recent years. There are now hugely improved options for taking increasingly precise measurements. Take for example the **i.Profiler® by ZEISS**. Training for the next generation of optometrists must take this equipment into account. At the same time, many new products are appearing on the market, such as specialized eyeglass lens solutions and frames. It is increasingly necessary to work with eyeglass wearers to analyze their individual situation in order to identify the optimal vision solution. The multiple new technologies make comprehensive consumer consultation more important than ever! It's now the case that at our institution around 50% of the training and final examination relates to the craft, while the other 50% relates to consultation.

BETTER VISION: What new products are available and do they require special consultation?

Volker Meyer: Vision has changed and naturally eyeglass manufacturers like ZEISS are responding, by developing vision solutions that are adapted accordingly. Computers, smartphones, and navigation systems now play an important role in our daily lives. The result is a greater diversity of vision situations. Our eyes have to switch between various viewing distances more frequently and rapidly; close range for reading, intermediate range for computers and navigation systems, as well as clear vision into the distance especially while driving. This also places new demands on progressive lenses in particular, which offer the ability to see at multiple viewing distances in a single eyeglass lens > [ZEISS has developed eyeglass lenses called Officelens](#) that can be optimized specifically for intermediate viewing distances based on a consumer's particular needs. All this ensures that the eyeglass wearer has clear, relaxed vision tailored to their specific visual situations.

Heinrich Rath: Of course, this means that I have to provide eyeglass wearers with very specific consultations. One pair of eyeglasses cannot meet every need, and I must work closely with patients to determine if they require an extra pair of eyeglasses for specific visual tasks, such as sunglasses, or playing sports.

BETTER VISION: Is it accurate to say that better technology (such as > [i.Profiler®](#) and > [i.Terminal®](#) by ZEISS) has changed the quality of consultation or even improved it?

Volker Meyer: The measurement devices available now offer optometrists more options today than they had before. The i.Profiler® allows us to perform measurements using wavefront technology. This gives us an exact profile of each eye – while also showing us how vision behaves when the pupils are largely dilated in twilight and darkness. Based on this, we can learn a lot; not only about the prescription, but also about other vision problems, such as the onset of cataracts. If eye problems of the latter kind or potential conditions are found, we recommend that consumers visit an ophthalmologist.





i.Terminal® 2 by ZEISS

Heinrich Rath: As optometrists, we want to be as precise as possible, but naturally we also want to work in a way that consumers can understand. Ultimately, the consumer must know exactly what they are receiving in exchange for their money. We use the i.Terminal® to fit the eyeglass lenses into their frames. In this task, every millimeter counts. To fully take advantage of the capabilities of the lens and to ensure relaxed vision, it's important that the eyeglass wearer's range of vision at close, intermediate and long distances pass through the area of the eyeglass lens that has been designed for this range.

It therefore relies on the equipment taking precise measurements. Of course, there is also a great deal of human skill and craft involved. As an optometrist, I must be able to read and apply the measured data, select the appropriate product and finish, select the eyeglass frames based on the vision requirements, then center and adjust the frames comfortably and properly on the nose and ears. In this sense, I now have considerably more options than I did ten years ago! Quality is achieved through these details, and this is what differentiates the mass eyeglass market or glasses ordered on the Internet from professional optometrists, who focus on quality.



i.Profiler® by ZEISS

BETTER VISION: Do people see better now than before?

Volker Meyer: Yes! Optometrists like us can certainly help consumers to see better. Unfortunately, due to the increasing number of cheaply-produced eyeglasses, vision can also be impaired. The technology, time for precise adjustment and degree of customization simply cost more money than simple solutions. Eyeglasses are never a standard product, but always an individual one.

Heinrich Rath: You can tell that this is the case simply because you can never test the product in advance. Eyeglasses must first be produced and then they must fit,..that's the art. If it doesn't work and one has headaches, for example, errors may have been made in adjusting many small screws. Alternatively, this may be caused by the frames; such as if they were previously made of metal and were lighter, and now are made of horn and too heavy. There can also be psychological reasons why someone simply isn't happy with their new glasses.

Volker Meyer: And people simply have to get accustomed to their first progressive lens glasses. Our brains also help with this! After a time, the brain knows which area of the glasses it must look through in order to see optimally. Conversely, one can also become used to "incorrect vision." In this case, people can suffer from back pain due to poor posture or do not fully exploit their vision potential. We optometrists must provide individual consultation for all these issues.

Heinrich Rath: When the first progressive lenses were developed, a well-known professor said: "Progressive lenses won't find acceptance." At that time, [bifocal lenses](#) were still in fashion; they featured two lens areas on each lens and caused what is known as image displacement. Progressive lenses don't have this issue, but each lens does have an area that is optically undefined. This area will be larger or smaller depending on the quality and design of the lens. Of course, the professor knew about this issue, but failed to consider the processing power of our brain. Physical vision is not the same as perception, after all. Progressive lenses are now the eyeglass lens of choice for presbyopia and are extremely popular.

BETTER VISION: Where do you think the next developments concerning glasses will lead?

Volker Meyer: Advances will continue to be made with regard to the quality of eyeglass lenses and eyeglass lens design. We have not yet reached the end in this respect. We must also be able to improve progressive lenses even more. I also think that something will happen in the area of eyeglass lens materials leading to thinner, lighter eyeglass lenses. There is also still development potential in the area of [silicate eyeglass lenses, i.e. mineral lenses](#).

Heinrich Rath: I also think there will be further developments with regard to photochromic, self-tinting eyeglass lenses. It would be great if one day we were able to adjust the tint of eyeglass lenses using an app on our smartphones...

The ZEISS Online Vision Check

How well do you see contrast and colors? Check your vision quickly and easily here!

[Start the eye test now!](#)

My Vision Profile

Determine your personal visual habits now and find your individualized lens solution.

[Check your Vision Profile now!](#)

Find an eye doctor near me



Related Articles



The secret behind the perfect eyeglass lens design

A lot of experience, mathematics and exact knowledge of the eyeglass wearer's needs are required to provide a tailored solution.

[Understanding Vision](#) Oct 16, 2017
Tags: At the eye care professional



Plastic or Glass Lenses?

Which material is best for which patient? Do your homework before you shop for glasses and you will enjoy better vision.

[Understanding Vision](#) Oct 16, 2017
Tags: At the eye care professional



Low Vision Devices for Work: When Better Vision is Just Not Good Enough

ZEISS precision loupes for those who have to have a good eye for detail in their jobs

[Understanding Vision](#) Oct 16, 2017
Tags: At the eye care professional, Magnifying Visual Devices



What's the difference between individualized eyeglass lenses and off-the-shelf lenses?

How eyeglasses can help you regain natural vision.

[Understanding Vision](#) Oct 16, 2017
Tags: At the eye care professional

Related Products



Digital Lens –
the perfect all-day glasses for the digital lifestyle.

[Learn more](#)



Progressive glasses are an all-around talent:
finally enjoy good vision again – no matter the distance.

[Learn more](#)



Officelens:
Enjoy comfortable vision on the job.

[Learn more](#)



Explore

- Understanding Vision
- Health + Prevention
- Lifestyle + Fashion
- Driving + Mobility
- Sports + Leisure
- Work Life

Help me choose

- Progressive Lenses
- Sunglasses
- Working Glasses
- Sports Glasses
- Glasses for Children
- Lens Coatings
- Lens Cleaning
- At the Eye Care Professional

Services

- My Vision Profile
- Online Vision Check

For Eye Care Professionals

- Our goal is to make you successful
- Instruments + Technologies
- ZEISS Eyeglass Lenses
- ZEISS Cleaning Solutions