Saving Face

The latest generation of medically informed skincare couldn't have come at a better time, putting doctors and researchers in the foreground as we increasingly shop – and live – online.

By Adriaane Pielou

In a remote greenhouse in southwest Iceland, Bioeffect grows bioengineered barley plants that produce its key ingredient – epidermal growth factor

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Cruel, cruel Zoom. The blotches! The eye bags! Let's not even start on the sagging. The world has been turned upside down recently, but on a personal level, one of the biggest shocks has been seeing oneself on a screen. Minor in the scheme of things, certainly, but still cause for much global brooding. It's no wonder Mintel, a global research firm, declared skincare one of the few big winners of 2020. And it's no wonder, either, that doctors and scientists, ever-present on our screens nowadays, are also more prominent on our shelves at home, as our increasing appreciation and understanding of what scientists do in their laboratories has accelerated the trend towards skincare backed by serious medical and scientific research.

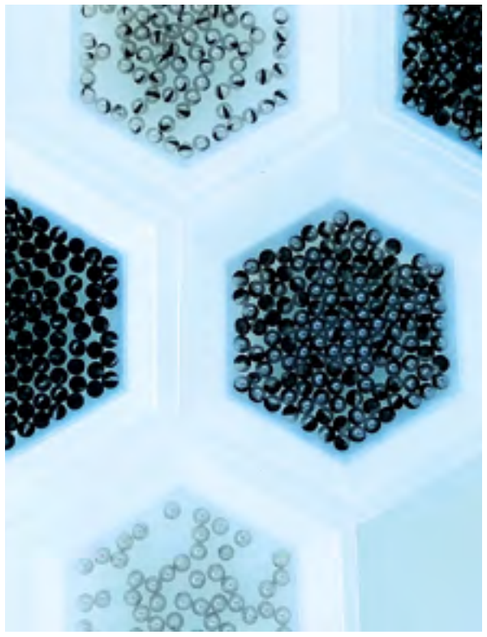
The past ten years have been transformative for skincare. That's thanks particularly to careful research into what have become the beauty business's hero ingredients. Leading dermatologist Dr Stefan Duve, who has a suite of namesake products and runs a renowned skincare clinic in Munich, enumerates them: "hyaluronic acid, vitamin C, niacinamide and, of course, retinol or retinol derivatives". And online – where more of us are buying our skincare now – the doctors and scientists reshaping the industry with clever technology, lab-grown ingredients and novel delivery systems have limitless scope to go into detail about their work and what we can expect from them in the future.

"We've sold 50 per cent more online in the last year," says Dr Suzanne Saffie-Siebert, the founder of Good Science Beauty and an apt representative of the serious new stars of skincare. She shares a key similarity with Professor Augustinus Bader, head of stem-cell research at the University of Leipzig, whose The Face Oil was formulated after 30 years' work with burn victims and launched in 2018; and with Iceland's Dr Björn Örvar of Bioeffect, whose PhD in plant molecular genetics led to his epidermal growth factor,

produced from barley; and also with 2016 Nobel Prize in Chemistry winner Sir Fraser Stoddart, whose invention of a vessel 10,000 times smaller than a skin cell ensures targeted delivery of the regenerative, healing properties of active ingredients in his line Noble Panacea. The similarity? That Dr Saffie-Siebert, like all the others, never intended to get into the skincare industry.

For many years, she was involved solely in the pharmaceutical world, researching needle-free drug-delivery. However, in the course of that, she discovered that biodegradable silicon (a naturally occurring micromineral not to be confused with silicone) was, when used topically, exceptionally effective at delivering active ingredients into the skin. Silicon thus became the hero ingredient of Good Science Beauty, which Dr Saffie-Siebert runs with an all-PhD R&D team alongside her biotech research company SiSaf, which develops prescription medicines for gene therapy.

"Unfortunately, many skincare products may have great-sounding ingredients – but without a delivery technology, many ingredients have little effect," she says. To her, the most important contribution recent experiments in bioengineering have made to skincare has been the development of artificial skin models. "I'm confident that in the not-too-distant future they will be able to emulate wholly realistically the mode of action of the different layers of human skin. That will allow us to fully test the efficacy of skincare products in the lab."



Above: French marque Capsum's EmotiPearls separate hydrophilic and lipphilic ingredients until use for maximum effect; *top:* at work at the Good Science lab

That will be a huge leap forward. In the meantime, the switch to digital means niche brands are more discoverable, and brands with highly complex processes behind their products can explain via text, graphics and video. Aduro, for instance, which produces LED light-therapy masks (flexible ones, which are more comfortable than rigid), can not only explain transparently how light therapy improves problem skins and collagen production, but can also link you to Kaiyan Medical, its factory in China, so you can witness the manufacturing process, introduce founder Alain Dijkstra's development plans (full-body light therapy in your living room!), then inspire you to roam far and wide among the troves of scientific skincare information online.

Before you know it, you're learning how many rival formulations are actually devised by the same cosmetic products manufacturers, such as Capsum in Marseilles, and reading up on toning microcurrent devices (NuFace), maskne treatments (Dr Barbara Sturm, The Organic Pharmacy) and wild harvesting (Codex Beauty, launched by Barbara Paldus, who has a PhD in electrical engineering and holds 40 patents). You're exploring the nature/science fusion of active marine ingredients (One Ocean Beauty), dual-cell technology (Serucell) and microbiome-focused skincare (Aurelia, Gallinée, Dr Elsa Jungman). You're also discovering The Opulus, a biodegradable pod tackling the skincare industry's unsustainable use of plastic, about to be launched by Clarisonic inventor Robb Akridge, as well as getting an early look at the Droplette – that's the new Nasa-backed gadget – launched in December in the US – that uses an innovative "mist injection" to deliver microscopic particles deep into the skin.

For those with concerns about particular ingredients, What's In My Jar and the Skin Deep database provide help, boasting analysis of more than 69,000 skincare products – and giving deeper understanding of why, for instance, the EU has banned 1,373 ingredients, while in the US, the FDA has prohibited or restricted only 11. Further evaluation can be found at sites like The Beauty Brains and Lab Muffin, which are not the idle ravings of so many beauty blogs, but rather informed breakdowns by professional scientists who demystify new products and technologies, separating true science from pseudoscience.

It can be possible, however, to lose oneself in all this newly available information and concepts like dermabrasion, infra-red laser and micro-needling devices. Ronit Raphael, founder of the luscious range L.Raphael (and its spas), knows the potential dangers. At 18, trying to sort out her acne, she used a chemical peel that left her with second-degree burns. Her brand, and its personalised beauty centres, offer an expert perspective aimed at avoiding the pitfalls of self-care with which Raphael is all too familiar.

Unwitting skin damage can even be found among Hollywood A-listers, whose faces are their fortunes. "I see a notable difference in skin from ten, 15 years ago," says veteran Beverly Hills facialist Cynthia Franco, who routinely preps clients the day before the Oscars' red carpet. "Back then, we were dealing with much more sun damage. Thankfully, products have evolved to meet that problem. But today, so many products contain 'actives' that sometimes they are in every single product a client may be using at home. This is not optimal! Sometimes my clients haven't a clue there is an exfoliating acid in their face wash, toner and moisturiser – and that, over time, this will sensitise their delicate skin."

Dr Timm Golüke agrees. He treats dermatology clients in London and Munich and presides over the potent Royal Fern range of skincare, based on fern harvested in Germany and the result of four years' research into these astonishingly hardy plants. "I see a lot of perioral dermatitis due to overuse of products and gadgets at home," he says. "I'm always advising patients to simplify their skincare routine in order to prevent irritations. Less is more."

"But I think the focus this year will shift even more to brands that have a strong scientific background," Golüke continues. "People are looking for products that are multitaskers and deliver results. Masks and more time at home mean good skin is coming into focus like never before."

And according to Dr Duve, this skincare of the future may well be based on stem-cell and growth-

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Noble Panacea's Absolute Intense Renewal serum, from Nobel Prize winner Sir Fraser Stoddart's *(right)* skincare line

FROM TOP: © GOOD SCIENCE BEAUTY, © CAPSUM

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factor ingredients. “A lot of money is being invested in research being done in these areas; some of the active principles are still unclear. Research into free radicals will also remain important and increase in importance. And more and more environmentally [friendly] packaging will enter the market.”

Which is to say: skincare’s scientific revolution is far from being over. And while our online shopping habits will never go away (you can even find delectable Dior, Clé de Peau and our beloved Estée Lauder Advanced Night Repair, one of the few formulas good enough to survive from the 1980s, on Amazon now) it will be a treat to get back to the experts. And, perhaps, to finally say good riddance to Zoom, too – albeit looking somewhat smoother-faced.

Performance Picks

A selection of science-savvy skincare salves.

From left to right: **Bioeffect**’s radiance-boosting 30 Day Treatment incorporates a trio of natural growth factors to reduce wrinkles, pore size and redness, *bioeffect.com* **Doctor Duve** Phytoceutix Night Cream harnesses the power of Vigna aconitifolia seed to stimulate collagen formation and promote cell renewal for smoother skin, *dr-duve.com* **Estée Lauder**’s firming Advanced Night Repair serum features the marque’s Chronolux Power Signal technology to diminish signs of ageing, *esteelauder.com* **QMS Medicosmetics** Collagen Recovery Day & Night Cream’s potent bouquet of actives includes the brand’s much-lauded Neotec A-15 collagen-hyaluronic acid complex, *qmsmedicosmetics.com* **Clé de Peau Beauté**’s night-time Intensive Fortifying Cream N brightens, firms and protects skin via a potent combo of ononis-spinosa-root and abelmoschus-esculentus extract, *cledepeau-beaute.com* **Augustinus Bader**’s hydrating, anti-ageing The Rich Cream is powered by the patented trigger-factor complex TFC8, which stimulates skin’s natural rejuvenation process, *augustinusbader.com* **The Organic Pharmacy** Hyaluronic Acid Serum’s plumping recipe helps lock moisture in the skin and reduce fine lines and wrinkles, *theorganic pharmacy.com* **One Ocean Beauty**’s moisture-rich Revitalizing Sea Serum owes its potency to marine actives from the Antarctic and brown kelp from the French coast, *oneoceanbeauty.com* **Good Science Beauty**’s overnight 003-Hy Hydrating Facial is packed with hyaluronic acid and marine Omega-3, which boosts lipid content and restores skin suppleness, *goodsciencebeauty.com* **Codex Beauty** Bia Skin Superfood for the face and body leans on the brand’s BiaComplex formula, a unique blend of skin-repairing plant extracts, *codexbeauty.com* **Dr Barbara Sturm** Sun Drops SPF 50 hybrid skincare/sun protection is informed by an antioxidant, skin-calming active complex of vitamin E, beta-glucan and purslane, *drsturm.com* **Royal Fern**’s complexion-enhancing Phytoactive Cream discourages collagen and elastin breakdown, revitalising the derma via innovative liposome technology and plant extracts, *royalfern.com*

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