

Progress of Cosmetic Science

Tatsuya Ozawa

President of the Society of Cosmetic Chemists of Japan

In Japan, we are now seeing the progressive graying of our society. On a global level too, the signs of this are becoming increasingly obvious.

Looking back on the history of technology in the cosmetics industry, at one time, production and formulation technology occupied the central position and against this background, colloid chemistry and other physical chemistry disciplines played a principal role. In due course, however, as safety problems arose with cosmetics, rapid advances were seen in life science-related research. Though such research had its basis in safety, it gradually expanded into the area of efficacy.

Up till now, research on the utility efficacy of cosmetics has basically been targeted on anti-aging, but it is being said that the 21st century will be the age of the brain and mind as far as this is concerned. In view of this, applications of cosmetics for the care of the mind have been actively developed in recent years. In 1993, in the research conducted at MGH/Harvard Cutaneous Biology Research Center (CBRC), Granstein, Hosoi et al. discovered that there was contact between Langerhans cells and nerve cells. This discovery received great attention as it was new evidence that the mind and the body were connected in the skin. This surely suggests the course of skin care in the 21st century.

Cosmetic scientists have put forward theories for four generations of skin care. The first generation considered the moisture balance of the skin from the horny layer to the epidermis

(moisture balance theory), the second generation focused on actions of the enzyme system at the horny layer/epidermis level (enzyme balance theory), the third generation considered the involvement of such substances as collagen and glycosaminoglycan in the homeostasis of the epidermis and dermis (D-E homeostasis) and the fourth generation concerns the connection between the brain, mind, immune system and the skin.

I would like to focus on the foregoing in giving my view of cosmetic science in the 21st century.