THE TENTH LITERATURE AWARD

June 24, 1964

Columbia University New York City

During the banquet in connection with the Third Congress of the International Federation of Societies of Cosmetic Chemists, held in Ferris Booth Hall at Columbia University on June 24, 1964, Mr. Robert A. Kramer, President of the SOCIETY OF COSMETIC CHEMISTS, presented the S.C.C. Literature Award for 1963 to Dr. E. Howard Mercer of Melbourne, Australia.

Dr. Mercer was given the award for his achievement in extending our knowledge of the molecular biology of keratin and of the keratinization process. His clarification of the relation between the structure and function of various keratinized tissues is of immense value to all who must treat the skin and hair.

The Literature Award is made possible through the continued interest and financial support of no less than 160 manufacturers, suppliers, testing laboratories and other companies, who in joint effort promote and encourage basic research in cosmetic science.

HOWARD MERCER, Ph.D.

A EULOGY BY A. M. KLIGMAN, M.D., PH.D.*

Eulogizing, as most of you know, runs counter to my native instincts. I have a more cultivated taste for profanations. This, however, is my second panegyrical or praise-producing performance before this SOCIETY on the occasion of increasing the unearned income of meritorious scientists by $1000.

Eulogizing, as you know, is praise of individuals who have the advantages of wealth or power or who are in the convenient state of being dead. Since I am forced to practice the laudatory art, it behooves me to hydrolize my high molecular weight hostility and reconstitute the ingredients into the oily cosmetics used for beautifying the scientific image of the recipient.

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Cosmetics are intended to adorn the superficies without altering the skin, preferably without even penetrating it. This avoids classification as a drug and staves off the pure persecutions of the F.D.A.

In selecting world renowned scientists for this coveted prize, the SOCIETY has strikingly answered the charge of concerning itself solely with the superficial business of beautification. On the contrary, it has admirably proved its respect and support of basic scientific work. It is altogether estimable, and probably not an act of chance, that the recipient of last year's prize, Dr. J. Gross, and this year's celebrant are eminent authorities in the field of macromolecular biology, a subject at the center of modern medicine and the very frontier where the pioneers are camped. How appropriate, in dealing with skin, for Dr. Gross to be honored for his collagen achievements and Mercer for his grand studies of keratin. It is collagen which provides the skin with its scaffolding and solidity, while keratin is the building stuff of the horny layer, a barrier which effectively seals the body off from its environment. These two marvelous fibrous proteins, designed for tough service, form complementary systems which uniquely enable the skin to carry out its only known biological function, namely, of protection.

Captivated by encomiastic enthusiasm, I should like to offer not one but two eulogies. My first is a citation of the SOCIETY for its admirable wish to recognize and honor investigators of great stature; this activity cannot fail to stimulate basic research and promote knowledge of the skin. It cannot fail to bridge the chasm between study and practice. Lest there be any invidious sentiments that this citation to the SOCIETY is merely words unsupported by the substantiality of hard cash, it gives me pleasure to validate my effort by delivering into the hands of the president a genuine U.S.A. 1963 penny, a coin of such priceless value that no known object can be purchased with it. I am certain this will remain as a permanent trophy to symbolize recognition by the academic community of the achievements of the SOCIETY.

Now to come to the man of the hour. Howard Mercer was born and bred in wooly Australia, still another demonstration that an unfavorable environment is not an obstacle to greatness. Having hosted him in my home for the week-end, one sees at once the qualities required for high performance: a spacious mind, a clear head and probing mentality, accompanied by those other prerequisites for soaring achievements: disciplined creativity, a rugged individuality which is equally unaffected by approval and disapproval, an ambition to exalt the uses of the human mind, and the uncommon chemical capacity to mix inspiration with perspiration. Finally, he has the willingness to be fatuously and permanently in love with the sirens of science.

His past history reveals the basic ingredients which appear with such

regularity in the lives of those who elevate us all. He has insatiable curiosity, will go anywhere, roam over diverse territories, migrate into whatever field offers the prospect of exploring the wonders of the living universe.

After taking his degree at Adelaide, a suitably named place for a scientific romance to start, he worked during the war on the problems of night vision. His search led him to the academic shrine at Leeds where he had the splendid privilege of working with Astbury and Speakman. He took his Ph.D. so recently as 1949. He is obviously not sailing but flying through life. His argosy took him to Sweden and the United States where he tried to satisfy his passion in works on the structure and formation of fibers. True to his migratory instincts, he went to London and nested for a while at the Royal Cancer Hospital, where he seems to have been lured into a tentative marriage with the keratinizing cells of hair and nails. His roving eye has perhaps become domesticated by his interest in fiber forming cells of the skin and hair. In 1960 he was awarded a Doctor of Science by Adelaide University. Favorable tail winds brought him back to Australia in 1963, where he has since been located in organizing an electron microscope unit at the John Curtin School of Medical Research in Canberra.

His scientific fertility is prodigious. He spawns finished works faster than fish can lay eggs. His scientific contributions are sufficiently numerous to be expressed logarithmically, well over a hundred at last counting. Like Lincoln, Mercer gets large ideas into an astonishingly small space. Like Newton, he can lie under a tree and make great discoveries by watching so ordinary a thing as an apple fall.

He has written three books. "Keratin and Keratinization" is his masterpiece. The treasures in this book are precious and sanctified for all students of skin. Another work on "Cells and Cell Structure" is intended for High School students. His immense grasp, coupled with lucid literary skills, enables him to spread out in banquet form a large feast for those who have appetite but not necessarily sophisticated taste. His third book, entitled "Electron-Microscopy, a Handbook for Biologists," contains the technological secrets which have made him a master of the high arts of magnification.

Like other large-minded members of the intellectual aristocracy, he is alive to the fascinations outside the laboratory. He is such an accomplished sculptor that it takes constant moral effort not to quit science for the joys of the plastic art. Here, too, he works in new ways, as becomes a researcher.

I have it in his own writing that he likes to eat, talk and walk, which are, to my knowledge, the only ordinary things he does. I presume other ordinary activities not included in his list would require too much time and energy or perhaps are too difficult to master for an intellectual.

I will bear eyewitness to the fact that he doesn't drink. He says he gets

headaches. I am reminded of the Broadway playwright who wanted to ascertain what it was in spirited drinks that made him ill, so he took Scotch and water, Rye and water, Bourbon and water, etc., and uncritically concluded that water was the cause of his trouble. Mercer seems not to have tried the inverse experiment of imbibing pure alcohol on the chance that unrelated substances in ethylated beverages might be at fault. Every genius has blind spots.

I close by mentioning a property which you will soon observe for yourself, an honest, unaffected modesty. In Lloyd George's words, there never was a small man who felt small or a large man who felt large. It is my pleasure to commend to your attention an international giant.

Acceptance

By E. H. Mercer, Ph.D.

When I received word that I was to be honored with this award I had doubts as to my worthiness, since I had worked so little on problems related to cosmetics. These doubts persisted. In fact they have only just been dispersed this evening by the eloquence of my eulogist, Dr. Kligman. He has finally convinced me that I am a fit and proper recipient. In a eulogist, moderation is not a virtue. He needs must exaggerate or (not to put too fine a point on it) even *lie* in a good cause. And of eulogists' lies, it may be said (as that charming young lady Fanny Hill is alleged—wrongly as it happens—to have said in quite another context), "There are no little ones, only BIG ones and whoppers." Well, Al Kligman told some whoppers tonight, and I'm grateful to him for introducing me so mendaciously. I accept this little slip of paper now without qualm.

Another emotion I experience on receiving the news was pleasure—pleasure that it should come from the Society of Cosmetic Chemists; that they should take the trouble to put on record in this substantial way (for $1000 is substantial) their faith in the value of academic research to cosmetic science. I wish even more now that I could work directly on cosmetics; there seems to be money in it. But in Australia, where there are, alas! twenty times more sheep than women, one has to work on sheep.

When I came to write my book on keratinization, my interests had drifted farther from practical applications. I wrote because I had become prey to that dangerous urge to tidy things up and put them in order: an urge common to philosophers, religious fanatics, dictators and paranoids of all kinds. The masses of unrelated and undigested data about skin and hair in books and journals upset me. I set about tidying it up in response to this personal need.

I presented the epidermis in molecular terms as a biological adaptation

evolved to protect us mammals from the chemical and mechanical hazards of our environment occasioned by our ancestors having left the cosy sea. There was an aspect I touched upon but did not develop, and it is precisely here that cosmetics find their natural place. The epidermis and its appendages (hair, feathers, nails, etc.) not only function as a protective coat; it is in addition the surface we present to the other members of our species; it is our billboard where we make personal and even intimate announcements, a component in the interspecies communication system. I need hardly remind you of the incredible mating displays of birds or of the role of odors among the mammals. Of paramount importance among the lower animals who have not our doubtful advantage of speech, the epidermis remains nevertheless among us the basis of a more fundamental nonverbal form of communication. Some men (I am told) have fallen in love with a woman on hearing her voice—they would have been better advised to wait until they got their hands on her epidermis. Some women (in novels at least) fall in love with a man's poetry. Again, before going further, I would counsel a quick look at the poet's epidermis. In this primitive intersexual signalling system, the epidermis and its odors have pride of place, and *cosmetics* in very general terms is the art of enhancing this type of communication. It aims to make on empirical and theoretical grounds such significant changes in our appearance and odor as to produce a favorable response from others.

For accidental historical reasons in our culture we cover most of our surfaces except the face and hands; cosmetic chemists therefore concentrate on these parts. It was not always so—and I can point to the Maoris and aborigines of Australia as excellent examples of more extensive decoration—and even among us, it is a limitation only to be deplored, because there is no question that subconsciously other parts remain still in force as elements in the signalling system. E.g., all men here (and all the knowledgeable women) are aware of the importance of the female derriere—a truly enormous area of epidermis, today wholly excluded from the cosmetician's skill. I am convinced that the sight of this object disappearing among the bushes was to early man the releasing signal, par excellence.

I have often in the Zoo (an invaluable institution for the education of cosmeticians as well as philosophers) meditated on the vivid red and blue bottoms of baboons and felt (were I a baboon) how that sight would send me. Relative to these humble apes, ladies and gentlemen, we are in this area frankly deprived. I can only hope that when further academic research has revealed the persistent importance among humans of signals transferred at this subliminal level, and we take the appropriate steps, the cosmetic scientists will march in and adorn the reconquered areas. A walk down the street will really be something then.

I should think it must be pretty clear by now what my future line of re-

search would be were I to continue with the skin. I confess to you (but let it go no further) that I am having trouble wording my application for a grant. They will surely want to know (*inter alia*) why I can't use rats instead of women. Have they ever looked at a rat's tail?

I may even have to apply to the S.C.C. for a grant-in-aid. In fact, now that possibility suddenly occurs to me, I think I had better—before sitting down and letting you get down to the serious business of putting your epidermis to work—conclude by re-iterating with emphasis how honored I feel to be numbered among those chosen to receive this award and how wise and farsighted the officers of this SOCIETY are to make it to useless people like me.

Dr. E. H. Mercer, r., receiving Literature Award from Mr. R. A. Kramer, l., President of the Society.

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