

**A Face to Die For: Acne, dermatology, and the quest for perfect skin in
Britain and the United States, c.1800–present.**



Figure 1.

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History Department, University of Strathclyde, 2020

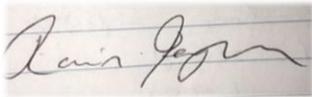
Declaration.

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A handwritten signature in black ink on a light-colored background. The signature appears to be 'Louis Jeyaraj' written in a cursive style.

Date: 18/10/20

Abstract

Acne is a blight on the social and emotional lives of many adolescents, often leaving both physical and psychological scars. Acne also carries a financial burden, with chronic unemployment being endemic amongst sufferers, costing over 3 billion dollars per year in direct and indirect health care costs in the US alone. But how far have adolescents, physicians and pharmaceutical companies been willing to go in order to treat it? This project addresses this question by providing the first history of acne. Drawing on unpublished archival material, medical literature, media sources, drug advertisements and oral history interviews, it charts how acne became the subject of medical concern from the nineteenth century onwards and explores how physicians and patients understood its causes and treatments. It examines the way physicians and pharmaceutical companies turned to the perceived health needs of adolescent patients and analyses how the risks and benefits of teratogenic drugs like Accutane were perceived by patients and physicians. It promises to add to the emergent historiography of skin and adolescent health, as well as to our understanding of the lived experience of those with acne. Finally, the project will engage with ongoing debates in the UK about whether Accutane (Roaccutane) should be sold in the UK and how drug policy should be informed more generally.

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In June 2010, I lay paralysed from my waist down in the Southern General Neurological Unit. I thought my life was over. Over the past decade, I have fought every day to rebuild my life and have never allowed multiple sclerosis to prohibit me from pursuing my dreams. I now have a beautiful wife, an amazing wee girl, a lovely house, a first-class honours degree, an MSc and have completed a PhD. During those desperate days, I could never have imaged this scenario.

This is for my two girls whose love helps me find the inner strength to keep on keeping on.

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Abbreviations

AAD	American Academy of Dermatology
ABC	American Broadcasting Company
<i>Aesthet Surg J</i>	<i>Aesthetic Surgery Journal</i>
<i>Am J Clin Hypn</i>	<i>American Journal of Clinical Hypnosis</i>
<i>Am J Dis Child</i>	<i>American Journal of Diseases of Children</i>
<i>Am J Gastroenterol</i>	<i>American Journal of Gastroenterology</i>
<i>Am J Nurs</i>	<i>American Journal of Nursing</i>
<i>Am J Psychiatry</i>	<i>American Journal of Psychiatry</i>
<i>Am J Public Health</i>	<i>American Journal of Public Health</i>
<i>Am Sociol Rev</i>	<i>American Sociological Review</i>
AMA	American Medical Association
<i>AMA Arch Derm</i>	<i>American Medical Association Archives of Dermatology</i>
<i>AMA Arch Derm Syphilol</i>	<i>American Medical Association Archives of Dermatology and Syphilology</i>
<i>AMA J Ethics</i>	<i>American Medical Association Journal of Ethics</i>
<i>Ann Am Acad Political Soc Sci</i>	<i>Annals of the American Academy of Political and Social Science</i>
<i>Ann Am Thorac Soc</i>	<i>Annals of the American Thoracic Society</i>
<i>Ann Intern Med</i>	<i>Annals of Internal Medicine</i>
<i>Ann N Y Acad Sci</i>	<i>Annals of the New York Academy of Sciences</i>
APsA	American Psychological Association
APhA	American Pharmaceutical Association
<i>Arc Dis Child</i>	<i>Archives of Disease in Childhood</i>
<i>Arch Derm Syphilol</i>	<i>Archives of Dermatology and Syphilology</i>
<i>Arch Dermatol</i>	<i>Archives of Dermatology</i>
<i>Ariz Med</i>	<i>Arizona Medicine</i>

ASHA	American School Health Association
<i>B J Plast Sur</i>	<i>British Journal of Plastic Surgery</i>
BBC	British Broadcasting Company
<i>Biochem J</i>	<i>Biochemical Journal</i>
<i>BMJ</i>	<i>British Medical Journal</i>
<i>Br J Dermatol</i>	<i>British Journal of Dermatology</i>
<i>Br J Derm Syph</i>	<i>British Journal of Dermatology and Syphilis</i>
CAMP	Christie-Atkins-Munch-Peterson
<i>Cal West Med</i>	<i>California and Western Medicine</i>
<i>Calif Law Rev</i>	<i>California Law Review</i>
<i>Calif Med</i>	<i>California Medicine</i>
<i>Clin Cosmet Investig Dermatol</i>	<i>Clinical, Cosmetic and Investigational Dermatology</i>
<i>Clin Dermatol</i>	<i>Clinical Dermatology</i>
<i>Clin Exper Dermatol</i>	<i>Clinical and Experimental Dermatology</i>
<i>Clin Pharmacol Ther</i>	<i>Clinical Pharmacology and Therapeutics</i>
CMAJ	Canadian Medical Association Journal
<i>Congenit Anom</i>	<i>Congenital Anomalies</i>
<i>Dermatol Online J</i>	<i>Dermatology Online Journal</i>
<i>Dermatol Ther</i>	<i>Dermatologic Therapy</i>
DES	Synthetic Estrogen Diethylstilbestrol
<i>Drug Ther Bull</i>	<i>Drug and Therapeutics Bulletin</i>
EMDR	Eye Movement Desensitisation and Reprocessing
<i>Eur Rev Hist</i>	<i>European Review of History</i>
<i>Exp Biol Med</i>	<i>Experimental Biology and Medicine</i>
<i>Fam Pract</i>	<i>Family Practice</i>
FAS	Foetal Alcohol Syndrome
FDA	Food and Drugs Administration

<i>Fed Probat J</i>	<i>Federal Probation Journal</i>
<i>Front Immunol</i>	<i>Frontiers in Immunology</i>
<i>Gastroenterol Hepatol</i>	<i>Gastroenterology and Hepatology</i>
GPI	General Paralysis of the Insane
IBD	Inflammatory Bowel Disease
<i>Indian J Dermatol</i>	<i>Indian Journal of Dermatology</i>
<i>Int J Adv Ayurveda</i>	<i>International Journal of Advanced Ayurveda</i>
<i>Int J Dermatol</i>	<i>International Journal of Dermatology</i>
<i>Int J Trichol</i>	<i>International Journal of Trichology</i>
<i>Int J Womens Dermatol</i>	<i>International Journal of Women's Dermatology</i>
<i>Interstate Med J</i>	<i>Interstate Medical Journal</i>
<i>J Allergy</i>	<i>Journal of Allergy</i>
<i>J Allergy Clin Immunol</i>	<i>Journal of Allergy and Clinical Immunology</i>
<i>J Am Acad Dermatol</i>	<i>Journal of the American Academy of Dermatology</i>
<i>J Bacteriol</i>	<i>Journal of Bacteriology</i>
<i>J Clin Aesthet Dermatol</i>	<i>Journal of Clinical and Aesthetic Dermatology</i>
<i>J Cutan and Genito-Urin Dis</i>	<i>Journal of Cutaneous and Genito-Urinary Diseases</i>
<i>J Dermatol Surg and Oncol</i>	<i>Journal of Dermatologic Surgery and Oncology</i>
<i>J Eur Acad Dermatol Venereol</i>	<i>Journal of the European Academy of Dermatology and Venereology</i>
<i>J Investig Dermatol</i>	<i>Journal of Investigative Dermatology</i>
<i>J Med Surg</i>	<i>Journal of Medicine and Surgery</i>
<i>J Med Res</i>	<i>Journal of Medical Research</i>
<i>J Natl Med Assoc</i>	<i>Journal of the National Medical Association</i>
<i>J Nerv Ment Dis</i>	<i>Journal of Nervous and Mental Disease</i>
<i>J Pak Assoc Dermatol</i>	<i>Journal of the Pakistan Association of Dermatology</i>
<i>J Pediatr</i>	<i>Journal of Pediatrics</i>

<i>J S Hist Society</i>	<i>Journal of the Social History Society</i>
<i>J Sch Health</i>	<i>Journal of School Health</i>
<i>J Law Health</i>	<i>Journal of Law and Health</i>
<i>J Law Med Ethics</i>	<i>Journal of Law Medicine and Ethics</i>
<i>JAAD</i>	<i>Journal of the American Academy of Dermatology</i>
<i>JAMA</i>	<i>Journal of the American Medical Association</i>
<i>JAMA Dermatol</i>	<i>Journal of the American Medical Association Dermatology</i>
<i>KS</i>	<i>Kaposi's Sarcoma</i>
<i>Lancet</i>	<i>The Lancet</i>
<i>Med Clin North Am</i>	<i>Medical Clinics of North America</i>
<i>Med Hist</i>	<i>Medical History</i>
<i>Microbiol Mol Biol Rev</i>	<i>Microbiology and Molecular Biology Reviews</i>
<i>N Engl J Ed</i>	<i>New England Journal of Education</i>
<i>NDA</i>	<i>New Drug Application</i>
<i>New Engl J Med</i>	<i>The New England Journal of Medicine</i>
<i>NIH</i>	<i>National Institutes of Health</i>
<i>Northwest Med</i>	<i>Northwest Medicine</i>
<i>Oral Hist</i>	<i>Oral History</i>
<i>Oral Hist Rev</i>	<i>Oral History Review</i>
<i>Pediatr Res</i>	<i>Pediatric Research</i>
<i>Pharmacoepidemiol Drug Saf</i>	<i>Pharmacoepidemiology and Drug Safety</i>
<i>Plast Reconstr Sur</i>	<i>Plastic and Reconstructive Surgery</i>
<i>PLoS Med</i>	<i>Public Library of Science Medicine</i>
<i>PNAS</i>	<i>Proceedings of the National Academy of Sciences of the United States of America</i>
<i>Postepy Dermatol Alergol</i>	<i>Postepy Dermatologii Alergologii</i>
<i>PPI</i>	<i>Patient Package Insert</i>

PPP	Pregnancy Prevention Programme
<i>Proc Roy Soc Med</i>	<i>Proceedings of the Royal Society of Medicine</i>
<i>Prov Med J Retrosp Med Sci</i>	<i>Provincial Medical Journal and Retrospect of the Medical Sciences</i>
<i>Psychoanal Hist</i>	<i>Psychoanalytic History</i>
<i>Psychoanal Rev</i>	<i>Psychoanalytic Review</i>
<i>Psychosom Med</i>	<i>Psychosomatic Medicine</i>
<i>Pure Appl Chem</i>	<i>Pure and Applied Chemistry</i>
QOL	Quality of Life
<i>Reprod Biomed Soc Online</i>	<i>Reproductive Biomedicine and Society Online</i>
RAG	Accutane/Roaccutane Action Group
SMART	System to Manage Accutane Related Teratogenicity
<i>Seton Hall Law Rev</i>	<i>Seton Hall Law Review</i>
<i>Soc Hist Med</i>	<i>Social History of Medicine</i>
STD	Sexually Transmitted Disease
TB	Tuberculosis
<i>Theory Soc</i>	<i>Theory and Society</i>
<i>Toxicol Appl Pharmacol</i>	<i>Toxicology and Applied Pharmacology</i>
<i>Twent Cent Br Hist</i>	<i>Twentieth Century British History</i>
<i>Ulster Med J</i>	<i>Ulster Medical Journal</i>
<i>Yale J Biol Med</i>	<i>Yale Journal of Biology and Medicine</i>

Chapter 1

Introduction

In February 2018, New Zealand singer Lorde realised a video on Instagram urging people to refrain from sending her unsolicited advice concerning how to treat her acne. Lorde, who claimed that some people presumed suffering from acne meant that her skin was unclean, revealed she had been recommended a host of therapies to treat the condition and informed that ‘moisturising will get rid of the problem’.¹ Though Lorde mocked those who asserted her acne could be cured by smearing her face with ‘Greek yogurt and avocado’, she ended the video by telling her fans who suffered from acne: "I feel your pain. We'll get there, we will. I promise."² As Lorde’s video perfectly encapsulated, acne can have a significant impact on sufferers’ quality of life (QOL).³ Both mild and chronic acne, for example, can lead to ‘prominent emotional and psychological issues’, with sufferers being known to suffer ‘significantly higher’ unemployment.⁴ In the US acne is estimated to cost over ‘\$3 billion annually in treatment and lost productivity’ and, in 2016, the global prevalence of acne was 681.2 million, ranking eighth in the list of the most prevalent diseases in the world.⁵

Concern about the socioeconomic and psychological implications of acne have been a source of worry to dermatologists and sufferers since the nineteenth century. During this period, increased interest in dermatology and improved understanding of the physiology and function of skin led to speculations about the causes of acne and fervent debates concerning how best

¹ Anon, ‘Lorde isn't here for unsolicited acne advice’, BBC News (February 2018). <https://www.bbc.co.uk/news/newsbeat-43124848> Accessed 10 February 2021.

² Ibid.

³ Anon, ‘Global Acne Market Report for 2016-2026’, PR Newswire <https://www.prnewswire.com/news-releases/global-acne-market-report-for-2016-2026-300576931.html> Accessed 10 October 2019.

⁴ Ibid.

⁵ Ibid.

to treat the condition.⁶ While some skin specialists did not believe acne constituted a disease and preferred instead to let nature run its course, other dermatologists treated acne by using aggressive treatments such as mercury and x-ray therapy. Furthermore, in the twentieth century, specialists from different disciplines such as allergy, bacteriology, gastroenterology, and psychiatry (amongst others) all put forward their own specific theories concerning the aetiological cause of acne and employed a diverse range of therapies for treating it.

During the post-war period, the development of a distinct and influential youth culture led to increased concern about the social, economic, and psychological consequences of teenage acne. The emergence of adolescent medicine as a unique medical subspecialty which focussed on the ‘physical, psychological, developmental, and social needs of the adolescent’ was spearheaded by renowned paediatrician James Roswell Gallagher.⁷ Gallagher, along with colleagues at the Boston Adolescent Unit, recognised the potentially damaging effects of acne and urged colleagues to take the condition seriously. As the American medical profession began to increasingly acknowledge the physical and psychological ramifications of adolescent acne, there was an increase in academic publications and lectures devoted to the problem. Moreover, physicians and dermatologists increasingly engaged with sufferers via health columns, newspapers, magazines, and questionnaires.

During the post war era, the escalating cultural and economic significance of acne offered the pharmaceutical industry a golden opportunity to market a range of therapeutics to the teenage acne market. Marketing campaigns for acne creams such as Clearasil, for example, fuelled adolescents’ fears regarding the social and moral implications of the condition. Dermatologists, likewise, employed a range of invasive treatments such as chemical peels and dermabrasion therapy.

⁶ <https://journalofethics.ama-assn.org/article/adolescent-medicine-emergence-new-specialty/2005-03>

⁷ *Ibid.*

Although drugs such as antibiotics and the contraceptive pill were used to lessen the levels of sebum and inflammation associated with acne, sufferers frequently experienced significant side effects. The discovery of isotretinoin in the early 1980s, then, was unsurprisingly well-received by dermatologists and patients. Approved in 1982 by the Food and Drugs Administration (FDA), the drug was marketed as Accutane. Initially, Accutane received glowing reviews from dermatologists, patients and within the media. Though Accutane was hailed as a ‘miracle cure’ for its ability to give at least 90% clearance of acne, it was soon discovered to be a potent teratogen, causing both neurocognitive impairment and congenital defects including ‘craniofacial, cardiovascular, neurological and thymic malformations’.⁸ As well as causing birth defects, Accutane was also linked to a host of other serious side effects such as severe bowel disorders, depression and to numerous suicides.⁹

This thesis investigates the history of acne. By exploring how acne has been experienced, treated, and understood, it will provide an original, nuanced, and multi-layered account of an important episode in the history of health and medicine. In addition, it will provide a chronological history of acne spanning the early 1800s until present day, with each chapter picking up on relevant themes for the chronological period in question.

⁸ Gary L. Peck, Earl G. Gross, Danute Butkus and, John J. DiGiovanna, ‘Chemoprevention of basal cell carcinoma with isotretinoin’, *JAAD* 6 (1982), 815–823.

⁹ Food and Drug Administration Center For Drug Evaluation and Research, Dermatologic Drugs Advisory Committee. Open Public Hearing NDA 18-662 Accutane (isotretinoin) Capsules. 26 April 1988, full transcript available from <https://wayback.archive-it.org/7993/20170403222750/https://www.fda.gov/ohrms/dockets/ac/88/62t1a.pdf>, Accessed 11 August 2019.

Literature Review

Acne and Skin Historiography

Acne has received little attention from historians. Whilst some physicians have provided short pieces which review some key moments in the history of acne, none have delved deeply into the subject.¹⁰ The history of skin, however, has begun to receive some attention from a range of multidisciplinary scholars from fields such as psychoanalysis, anthropology and cultural studies, who have considered the meanings and implications of issues such as self-harm, body piercing, tattooing and scarification in contemporary society.¹¹ Skin has also been the focus of museum exhibitions. In 2010, the Wellcome Trust held a four-month long exhibition which ‘invited visitors to re-evaluate the largest and probably most overlooked human organ and consider its changing significance – from anatomical analysis during the sixteenth century to contemporary artistic exploration’.¹² Examining it as a ‘frontier between the inside and outside of the body’, it explored ‘skin as a living document’, assessing how markings such as tattoos, scars, wrinkles and pathologies of the skin ‘all tell the story of our life so far’.¹³ The history of acne can extend such examinations and, in so doing, contribute insights about the development

¹⁰ Robert N. R. Grant, ‘The History of Acne’, *Proceedings of the Royal Society of Medicine* (1951), 647-652; Humyra Tabasum, Tanzeel Ahmad, Farzana Anjum and Hina Rehman, ‘The Historic Panorama of Acne Vulgaris’, *Int J Adv Ayurveda* 2 (2013), 99-104; N.F. Mahmood and A. R Shipman ‘The Age-Old Problem of Acne’, *Int J Women’s Dermatol* 3 (2017), 71-76.

¹¹ Didier Anzieu, *The Skin Ego* (Yale: Yale University Press, 1989); Jackie Stacey and Sara Ahmed, *Thinking Through the Skin* (London: Routledge, 2001) and Nina G. Jablonski, *Living Colour: The Biological and Social Meaning of Skin Colour* (Berkeley: University of California Press, 2012).

¹² Wellcome Trust, ‘What’s on: Skin Exhibition, 10 June 2010 – 26 September 2010’, <https://wellcomecollection.org/exhibitions/W31AaCkAACIAPtUm> Accessed 20 December 2018.

¹³ *Ibid.*

of medical specialities, the emergence of adolescent medicine and the factors that influence the development and acceptance of new drugs.

Cultural histories of the skin by scholars such as Claudia Benthien and Stephen Connor have emphasised the symbolic significance of skin, but have not focussed on acne.¹⁴ Connor argues that ‘for thousands of years, up until the beginnings of modern medical science in the eighteenth century, the skin has provided most of the signs and symptoms of the diseases suffered by human beings’.¹⁵ With serious illnesses such as syphilis, bubonic plague and smallpox manifesting on sufferers’ skin, diseased skin was regarded as ‘ominous, full of import and portent’.¹⁶ Benthien, for example, has pointed to the Enlightenment as the period when attitudes towards skin fundamentally changed. The tendency to cover the face with colourful make up in the baroque era essentially helped disguise ‘skin defects and emotional states’.¹⁷ While it was common to cover up and conceal blemishes and skin disfigurements in the seventeenth and early eighteenth centuries with cosmetics, towards the end of the eighteenth century efforts were made to reduce such imperfections using an array of medicaments.¹⁸ As a result, ‘there thus arose a new ideal of smooth, transparent skin whose veins and reddening naturally shone through’.¹⁹ Moreover, scholars such as Marina Warner have suggested that towards the end of the eighteenth century, ‘the details of someone’s outer physical presence became more and more invoked in the attempt to capture individual specialness: the you that makes you you’, and that the face became central to notions of a ‘particular personal identity’.²⁰

¹⁴ Neirita Hazarika and Matcha Archana, ‘The Psychosocial Impact of Acne Vulgaris’, *Indian J Dermatol* 61 (2016), 515-520.

¹⁵ Steven Connor, *The Book of Skin* (London: Reaktion Books, 2003), 95.

¹⁶ *Ibid.*

¹⁷ Claudia Benthien, *Skin: On the Cultural Border Between Self and the World* (New York: Columbia University, 2014), 102.

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ Marina Warner, *Phantasmagoria: Spirit Visions, Metaphors, and Media into the Twenty-first Century* (Oxford: Oxford University Press), 35.

In 2013, medical historians Jonathan Reinarz and Kevin Siena published the edited volume *A Medical History of Skin: Scratching the Surface*. By providing ‘case studies with the wider ambit of exploring the cultural history of skin through the prism of its diseases’, Reinarz and Siena aim to encourage further studies focussing on the skin and, especially, the patient’s perspective. Influenced by scholars such as Benthien and Connor, who ‘see skin as central to the self’, Reinarz and Siena argue that if ‘skin is key to identity, and identity changed in the late Enlightenment – we can speculate that damage to skin took on greater psychic and cultural weight as the nineteenth century dawned’.²¹ This volume is particularly instructive in detailing how diseases of the skin, like acne, have been conceptualised by physicians, dermatologists and the public since the modern era. In addition, studies from contributors such as Matthew Newsom Kerr, Kevin Siena and Richard McKay offer valuable context and insights regarding the reasons behind the increasing social stigma associated with acne from the mid-twentieth century.

Kerr argues that the emergence of smallpox vaccination marked a ‘decisive turning point in visual culture and representation of the body’.²² Before 1800, up to half of the British population suffered from the disease. Prior to vaccination, physicians would inoculate patients, which would result in patients developing a much milder form of the disease. Kerr claims that inoculation ‘promoted an ocular tolerance for smallpox: an ambience of pustules and pits in which Britons found safety, normality and even comfort’.²³ Advertisements from inoculators promoted how inoculation could preserve beauty, some assuring potential customers that they would only suffer between fifteen and twenty pustules – a comforting guarantee given the usual ravages of untreated smallpox. Edwards Jenner’s 1798 discovery of the cowpox vaccination,

²¹ Jonathan Reinarz and Kevin Siena (eds), *A Medical History of Skin: Scratching the Surface* (London: Pickering & Chatto, 2013), 3.

²² Matthew L. Newsom Kerr, “‘An Alteration in the Human Countenance’: Inoculation, Vaccination and the Face of Smallpox in the Age of Jenner’ in Reinarz and Siena (eds), *A Medical History of Skin*, 130.

²³ *Ibid*, 131.

however, quickly came to safeguard people from the effects of smallpox altogether. As Kerr shows, early supporters of vaccination ‘ultimately directed attention toward facial skin. In the medical economics of the body, the small token on the upper arm purchased a body free of “pox” blemishes. Faces were thereby “armed” against smallpox’.²⁴

Siena’s chapter in the volume showcases the social stigma of skin diseases. Focussing on the ‘itch’, he describes how it was associated with the immoral poor on account of its association with stigmatised skin diseases such as leprosy, and the pox became seen as a ‘manifestation of depravity’.²⁵ It was also a condition that became synonymous with poverty. As the poor were thought to be filthy, have poor diets and be more likely to engage in immoral behaviours, Enlightenment doctors believed that such characteristics ‘rendered bodies uniquely composed to breed and spread the itch’.²⁶ Moreover, as Siena shows, doctors not only associated individuals from the lowly classes with the itch but also certain nationalities and religions. Physicians, therefore, ‘lent theoretical credence to the idea that the Scots, like the Jews and the poor were inherently itchy’ and put forward medical and scientific theories in why such groups were predisposed to the condition’.²⁷

Richard McKay’s investigation into the skin cancer Kaposi’s sarcoma and AIDS also brings into sharp focus the ways in which Kaposi’s Sarcoma (KS) patients dealt with the discrimination that accompanied their disfigurement. Focussing on the case of Gaetan Dugas – a gay Canadian flight attendant blamed for the outbreak of AIDS in North America – McKay shows ‘how skin markings – and attempts to reveal or conceal them – can be interpreted by sick individuals and those around them’.²⁸ Many sufferers like Dugas opted to conceal the

²⁴ Ibid.

²⁵ Kevin Siena, ‘The Moral Biology of “the Itch” in Eighteenth-Century Britain’, in Reinartz and Siena (eds.), *A Medical History of Skin*, 71.

²⁶ Ibid.

²⁷ Ibid, 76.

²⁸ Richard McKay’s ‘Sex and Skin Cancer: Kaposi’s Sarcoma Becomes the “Stigmata of AIDS”, 1979–1983’, in Reinartz and Siena (eds.) *A Medical History of Skin*, 113–128.

unsightly lesions using make up, however McKay argues that such responses were met with anger and suspicion. If a sufferer concealed their KS lesions they were then often accused of being deceitful, denying others the opportunity to weigh up the risks of being in contact with them. McKay argues that Dugas's critics have overlooked the possibility that concealing the KS lesions was actually a coping mechanism and, not as was widely believed, a calculated plan to lure and infect unsuspecting victims. As KS 'became a visual metaphor for sexually transmitted disease' McKay's conclusion sums up the growing tendency for people to read and analyse human skin in the twentieth century:

From this time onward, the condition's colourful lesions would be read more and more as stigmata, giving rise to competing efforts to see, diagnose and interpret the signs on the skin, while at the same time raising questions as to the processes – physiological and psychological – taking place beneath its surface.²⁹

As Chapter 4 shows, post-war acne sufferers, much like Kaposi's sarcoma patients, had to overcome widespread discrimination which had a detrimental effect on their social and psychological well-being. As anxiety regarding the psychological impact of acne on young Americans grew, for instance, doctors, dermatologists, criminologists and sociologists ultimately constructed acne as a threat to not only one's social standing but, equally, the social order of the US.³⁰

Histories of dermatology have also informed this thesis, providing information concerning the personal and professional ambitions of dermatologists, as well as detailing the cultural and social pressures many acne sufferers have historically faced. As with many other areas of medicine, many dermatologists have chronicled their field's history. An example of this is

²⁹ Ibid.

³⁰ Iain Ferguson, 'They May Strike Back at Society in a Vengeful Manner': Preventing the Psychological Scars of Acne in Post-war America' in Despo Kritsotaki, Vicky Long, and Matthew Smith (eds) *Preventing Mental Illness: Past, Present and Future* (London: Palgrave Macmillan, 2019), 61-87.

History of Dermatology (1933) by American dermatologist William Allen Pusey's, the first such English-language history. In his insightful book, Pusey charts pivotal moments in the understanding and treatment of diseases like syphilis and leprosy. Pusey traces the rise of dermatology from Ancient Egypt and Greece to the development of the dermatology speciality in the early twentieth century.³¹

Others have focussed on dermatological institutions. Health journalist, Jeremy Laurance, for instance, examines the fascinating and often turbulent history of London's St John's Institute of Dermatology. Founded in 1863 by dermatologist John Laws Milton, Laurance describes how St John's endured a 'difficult birth'; beset by financial difficulties and disputes amongst staff, it also faced significant hostility from generalists concerned about the rise of specialised hospitals. Having had his surgical career cut short due to eczema affecting his hands, Milton turned to dermatology and focussed on establishing a 'proper hospital' in London dedicated to skin diseases.³² St John's was initially located in a small Westminster building with two small rooms and Milton as the only staff member. After two years, St John's had relocated to Leicester Square taking up residence in a dilapidated 'weed infected garden'. Acknowledging both the psychological and social costs often associated with skin diseases, Milton held evening clinics which catered to the 'artisan classes' who, if their skin diseases became known, risked being dismissed from work. Laurance thus argues that such clinics were ultimately 'an

³¹ William Allen Pusey, *The History of Dermatology* (Springfield, Illinois: Charles C Thomas Publisher, 1933). For other early histories providing an insight into the research and specialist dermatological training being carried out in an American context in the early twentieth century see: Reuben Friedman, *A History of Dermatology in Philadelphia* (New York: Froben, 1955). For histories discussing the essential roles played by the 'great masters' such as Joseph Plenck, Daniel Turner, Erasmus Wilson, Robert Willan and Thomas Bateman (amongst others) in the founding of dermatology as a medical speciality see: John Thorne Crissey and Lawrence Charles Parish, *The Dermatology and Syphilology of the Nineteenth Century* (New York: Praeger, 1981); John Thorne Crissey, Lawrence Charles Parish and Karl Holubar, *Historical Atlas of Dermatology and Dermatologists* (Boca Raton, Florida: CRC Press, 2013). Finally, there has been research on female pioneers of dermatology Jane Grant-Kels and Dedee Murrell, 'History of Women in Dermatology series', *Int J Women's Dermatol* 1 (2015), 115. For papers relating to the historical development of dermatology in the United States see: 'The History of Dermatology Society', <http://historyofdermatology.org/history/>, Accessed 10 February 2019.

³² Jeremy Laurance, *St John's Institute of Dermatology* (London: Guy's and St Thomas' NHS Foundation Trust, 2015), 9.

indication of the importance of the emerging specialism of dermatology in providing relief to patients who suffered twice over with their disease – once from the condition itself and twice from the revulsion it typically inspired in others’.³³

The explanations for other diseases during this period were imbued with social meaning and conveyed moralising assumptions about sufferers. Historian Gayle Davis, for instance, examines the ways in which the ‘wider Victorian medico-social concepts of civilisation and degeneration’ influenced Scottish alienists’ medical conceptualisations of general paralysis of the insane (GPI) between 1880 and 1930.³⁴ Considered a ‘disease of the city’ due to its prevalence in Glasgow and Edinburgh, Scottish alienists believed GPI was caused by alcoholism, tobacco, promiscuous sexual behaviours and the unhealthy and stressful demands of life and work.³⁵ Davis shows how Scottish alienists were reluctant to accept the syphilitic hypothesis of the disease, preferring instead to propose a ‘complex and multi-causal concept of GPI which drew heavily on blame and respectability’.³⁶ The history of acne can be said to have been shaped by similar factors. Whilst GPI was linked to ‘loose or immoral habits’, theories regarding the cause of acne similarly reflected broader societal concerns about class, sanitation reform, race and female beauty in the nineteenth century. As with GPI, nineteenth-century dermatologists linked acne to excessive sexual indulgence and masturbation, whilst claiming that marriage could cure the condition.

Although claims that excessive sexual indulgence and masturbation can cause acne have been dispelled, many people still believe that poor personal hygiene can trigger outbreaks.³⁷

Histories of cleanliness can help explain why this was the case. Mienieke te Hennepe has argued

³³ Ibid.

³⁴ Gayle Davis, *The Cruel Madness of Love’: Sex, Syphilis and Psychiatry in Scotland, 1880–1930* (Amsterdam: Rodopi, 2008), 199.

³⁵ Ibid, 206.

³⁶ Ibid, 199.

³⁷ Parker Magin, Dimity Pond, Wayne Smith and Alan Watson, ‘A systematic review of the evidence for “myths and misconceptions” in acne management: diet, face-washing and sunlight’, *Fam Pract* 22 (2005), 62-70.

that, from the mid-nineteenth century, skin was viewed as ‘a symbolic surface: a visual moral ideal’.³⁸ At a time when Victorian Britain was developing novel sanitation measures, te Hennepe suggests that ‘skin represented the organ of drainage for body and society’. She shows how the eminent physician and dermatologist Erasmus Wilson frequently employed the analogy between the sewage of the skin and that of the house or city. Cleansing the skin of the dirt and grime that clogged its pores – often in the public bathhouses recommended by Wilson – reinforced the importance of not only personal hygiene, but also the need for adequate sanitation in British cities.³⁹ As with te Hennepe, Sally Sheard has demonstrated that the opening of public baths and wash-houses in Belfast, Glasgow and Liverpool between 1847 and 1915 was also motivated by the belief that tackling personal uncleanliness led to improvements in the physical, spiritual and moral health of the poor.⁴⁰ During the nineteenth century, having dirty skin and soiled clothing signified that one was ‘coarse’, ‘vulgar’ and uncivilised.⁴¹

In *Chasing Dirt*, historian Sullen Hoy argues that the millions of immigrants who flocked to American cities in the late nineteenth century quickly came to appreciate the importance of personal hygiene for this very reason. With an increasing awareness of the link between dirty environments and outbreaks of epidemic disease, cleanliness became associated with the health of the nation. The reformers who assumed responsibility for teaching immigrants about how best to assimilate to the American way of life were sure to include instruction on hygiene. Hoy

³⁸ Mienieke te Hennepe, ‘To Preserve the Skin in Health: Drainage, Bodily Control and the Visual Definition of Healthy Skin 1835–1900’, *Med Hist* 58 (2014), 397- 421

³⁹ *Ibid.*

⁴⁰ Sally Sheard, ‘Profit is a Dirty Word: The Development of Public Baths and Wash-houses in Britain 1847-1915’, *Soc Hist Med* 13 (2000), 63-85.

⁴¹ James C. Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society* (Oxford: Oxford University Press, 2000), 21. Using government reports, archives and journals published by organisations like the Young Women’s Christian Association (YWCA), historians Vicky Long and Hilary Marland have also investigated the health advice given to female factory workers in early twentieth-century Britain. They claim that during this period ‘maintaining personal hygiene was believed to play a crucial role in the preservation of good health and thus working efficiency’. Whilst the health advice targeted the women, management were reminded of the benefits to productivity levels of promoting good personal hygiene. Vicky Long and Hilary Marland, ‘From danger and motherhood to health and beauty: health advice for the factory girl in early twentieth-century Britain’, *Twent Cent Brit Hist* 20 (2009), 454 -481.

asserts that newcomers soon realised that to flourish in America required the embracing of these hygienic principles. Though personal cleanliness was difficult for poor immigrants to achieve, Hoy claims that ‘they adopted American habits of hygiene as best as they could – not only to stay healthy but to be accepted and get ahead’.⁴² As Hoy argues, ‘confrontation with racial and cultural outsiders thus transformed cleanliness from a public health concern into a moral and patriotic one’.⁴³ At the beginning of the twentieth century ‘middle class Americans idealised cleanliness as their greatest virtue’ and, for immigrants wishing to successfully assimilate, this meant having cleaner skin, cleaner clothes and fresher breath – the toothbrush being increasingly ‘linked to patriotism’.⁴⁴

In her analysis of the soap advertisements marketed to American consumers, Juliann Sivulka argues that between 1900 and 1920 soap producers’ advertising campaigns became more sophisticated in ‘using appeals to influence consumers on an emotional level’.⁴⁵ In one case study, Sivulka discusses the Woodbury’s facial soap campaign of the early twentieth century. According to Sivulka, the educational campaign was consequently ‘reinforced by a strong emotional appeal to women’s desire to be beautiful and charming, to have a smooth, clear, attractive skin, as embodied in the slogan “A skin you love to touch.”’⁴⁶ Female consumers were reminded about the ‘social disadvantages of a bad complexion’ and the benefits associated with having a good one – advertisements featuring young, clear skinned women being embraced by handsome male lovers who often appeared transfixed by the beauty of their skin.⁴⁷

⁴² Sullen Hoy, *Chasing Dirt: The American Pursuit of Cleanliness* (Oxford: Oxford University Press, 1997), 88.

⁴³ *Ibid.*, 87.

⁴⁴ *Ibid.*

⁴⁵ Juliann Sivulka, *Stronger Than Dirt: A Cultural History of Advertising Personal Hygiene in America, 1875-1940* (New York: Humanity Books, 2001), 154.

⁴⁶ *Ibid.*, 153. See also: Daniel Delis Hill, *Advertising to the American Woman, 1900-1999* (Ohio: Ohio State University Press, 2002).

⁴⁷ *Ibid.*

Collectively, this scholarship emphasises the importance of clean, unblemished skin as an indication of a healthy body in both the Victorian period and the early twentieth century. Whilst clean, clear skin was linked with good physical, spiritual and moral health, suffering from acne during this period implied that one was poor, ignorant and lived in unhygienic surroundings.

Also relevant to the history of acne is scholarship which investigates how patients and doctors utilised early technologies such as x-ray and light therapy for treating both perceived bodily imperfections like excess hair and more serious disorders such as Lupus vulgaris. In *Plucked: A History of Hair Removal*, Rebecca Herzig examines the wider social and political factors which helped shape women's attitudes towards excess body hair in early twentieth-century America. Utilising medical case notes and letters from women to magazine editors, beauty experts and health advisors, Herzig showcases the 'severe depression' that bodily hair induced in women who failed to achieve the new ideal of 'smooth, white, velvety skin'.⁴⁸ According to Herzig, 'several developments converged to shape these expectations, including not only the rapid growth of print advertising and newly revealing fashions in clothing but also changing gender and sexual roles and intensifying emphasis on racialised ideals of hygiene'.⁴⁹ The newfound abhorrence towards bodily hair was reinforced by the hygiene movement whose focus on hygienic health was 'overtly racial'.⁵⁰ Herzig argues that fears about the 'racial in-betweenness' of newly arrived migrants were reflected in Americans' fears about 'impurity, pollution, sexual conduct, housekeeping and personal care'.⁵¹ Moreover, she attests that the introduction of the x-ray in 1890 promised to remove hair in a quick, pain-free manner in both salons and clinical settings. Although patients regularly urged their physicians to offer them x-ray therapy, many doctors sought to 'preserve the scientific clout' of the technology by

⁴⁸ Rebecca Herzig, *Plucked: A History of Hair Removal* (New York: NYU Press, 2015), 75.

⁴⁹ *Ibid*, 76.

⁵⁰ *Ibid*, 77.

⁵¹ *Ibid*.

restricting its application to patients with serious diseases. Thus, for many physicians, excess bodily hair was a ‘cosmetic defect’ and not a medical ailment in need of treatment. Herzig shows that physicians’ reluctance to offer the procedure to depressed women with facial hair unintentionally boosted the technology’s ‘scientific prestige’.⁵² As a result, x-ray salons filled the void, with hundreds offering the procedure to predominantly female consumers over the subsequent thirty years. Salons linked the removal of excess body hair with social and economic advancement, a feature emphasised later in advertisements for acne treatments.⁵³ As Chapter 2 shows, some dermatologists would also embrace the technology for treating acne, despite concerns about its long-term safety.

Turning to another way in which various qualities of skin have signified health, Tania Woloshyn has used medical journals, physicians’ case notes, novels and illustrative photographs in order to show how tanned skin became increasingly ‘aesthetically desirable’ and synonymous with good health between 1890 and 1930.⁵⁴ Woloshyn explains that ‘practitioners and patients of light therapeutics gauged the cure’s efficacy through changed sensuous qualities to the skin: its look (Pigmentation) and feel (composition)’. Discussing the use of light therapeutics and the Finsen light to treat smallpox scars and conditions like Lupus vulgaris, Woloshyn claims that heliotherapist, August Rollier, was imperative in establishing ‘a total body treatment to natural sunlight, not simply for specific lesions on the surface but for a holistic, immune-boosting regeneration of the entire body’.⁵⁵ Woloshyn’s use of images supports her arguments. In one example, Woloshyn shows the before and after pictures of a Lupus vulgaris sufferer treated by a Finsen light. In the before picture, the woman’s disfigured and scarred face is unrecognisable from that depicted a year after treatment had commenced.

⁵² Ibid, 89.

⁵³ Ibid.

⁵⁴ Tania Woloshyn, “‘Kissed by the Sun’: Tanning the Skin of the Sick with Light Therapeutics, c.1890-1930,” in Reinartz and Siena (eds.) *A Medical History of Skin*, 181-194

⁵⁵ Ibid.

Because of the swelling under her cheeks, she cannot open her eyes, her emotionless pose conveying the sense of a physically – as well as psychologically – damaged individual. In the after picture, however, the woman’s face is once more recognisable. Her face is smoother, her eyes are open, with a small smile completing her transformation. Woloshyn argues that the before pictures were cleverly fashioned to ‘mark out changes that are physical, ... psychological ... and moral’.⁵⁶

Histories of beauty and facial disfigurement are also helpful in informing the disgust associated with acne. Patricia Skinner and Emily Cock’s edited volume *Approaching Facial Difference: Past and Present* examines the way facial appearance and disfigurements have been represented over time. According to the editors, ‘faces are central to all human social interactions with ‘norms of appearance being determined by sociocultural practices’.⁵⁷ Jane Draycott, for instance, explores how hair loss was represented in ancient Rome, arguing that it was considered as much ‘a facial disfigurement as scars and blemishes on the face’s surface’, with baldness conceived as ‘not only a physical failing but also a moral one’.⁵⁸ Adopting a different approach, Michelle Webb investigates the experiences of women suffering from forms of facial disfigurement in sixteenth and early seventeenth-century England, arguing that, during this period, ‘acquired facial disfigurement was a sharply gendered experience’.⁵⁹ Webb shows how women suffering from facial disfigurements were often conceptualised as ‘being both psychologically and socially damaged’.⁶⁰ Whilst facial disfigurements during the early modern period were particularly common due to the ravages of diseases such as smallpox, discussions concerning the topic of female disfigurement usually involved ‘mournful comparisons with

⁵⁶ Ibid.

⁵⁷ Patricia Skinner and Emily Cock (eds), *Approaching Facial Difference* (London: Bloomsbury, 2018), 5.

⁵⁸ Jane Draycott, ‘Hair Loss as Facial Disfigurement in Ancient Rome?’ in Skinner and Cock (eds), *Approaching Facial Difference*, 66.

⁵⁹ Michelle Webb, ‘“A Great Blemish to her Beauty”: Female Facial Disfigurement in Early Modern England’ in Skinner and Cock (eds.), *Approaching Facial Difference*, 26.

⁶⁰ Ibid, 27.

their previous appearance’ and were often accompanied with gloomy predictions about their marital prospects. According to Webb, damaged faces were thus ‘interpreted as beauty spoiled’, with ‘most observers believing that an unmarred face was a prerequisite for a happy and successful female life’.⁶¹

Suzannah Biernhoff investigates the objectives of facial reconstructive surgery for veterans of the First World War. Using essays written by veterans during their long periods of convalescence in hospital, memoirs from soldiers and doctors, illustrative pictures of mutilated faces, and medical records, Biernhoff writes of surgery as being the ‘only hope’ for thousands of disfigured and maimed veterans. Biernhoff argues that the ‘loss of one’s face was a perceived loss of humanity’.⁶² In the early twentieth century facial disfigurements left veterans of the Great War with significant physical and mental scars. Such problems were exacerbated with the long list of social problems, such as the inability to achieve sustainable employment, which deeply hindered rehabilitation. Biernhoff relays the challenges that beset many of the medical professionals tasked with dealing with the veterans, arguing that the discourse amounted to ‘a culture of aversion surrounding facial injury: the popular and professional perception of unsustainable loss’.⁶³ Despite the belief in medical and media circles that, ultimately, medicine would ameliorate veterans’ shattered and mutilated faces, success stories were rare: ‘medicine could only repair the mutilated body up to a point’.⁶⁴ This thesis builds on Biernhoff’s work by examining a more banal and ubiquitous type of disfigurement: acne.

⁶¹ Ibid.

⁶² Suzannah Biernhoff, ‘The Rhetoric of Disfigurement in First World War Britain’, *Soc Hist Med* 10 (2011), 11-25.

⁶³ Ibid.

⁶⁴ Ibid.

Elizabeth Haiken's study examines the cultural and social economic factors which helped redefine and transform the speciality during the early to mid-twentieth century. Haiken argues that 'between 1921 and 1941, plastic surgeons organised and defined their speciality in the context of a rapidly changing culture'.⁶⁵ During this period, the Hollywood film industry was born, advertising techniques became more sophisticated and pictures of beautiful film stars featured increasingly in newspapers and magazines.⁶⁶ According to Haiken, 'Americans created and participated in a new, visual culture, where appearance seemed to rank even higher in importance'.⁶⁷ As people became more judgmental and critical of appearance, they came to realise the increasing significance of good looks for achieving social and economic success as well as for improving their mental well-being.⁶⁸ The emergent fields of psychiatry, psychology and psychoanalysis compounded these beliefs.⁶⁹ In the 1920s, Austrian psychotherapist, Alfred Adler, came up with the psychological concept of the inferiority complex – a term he used to explain the distressing self-doubts that plagued human beings. As Haiken asserts, plastic surgeons seized Adler's concept to justify cosmetic surgery, emphasising that individuals could correct their inferiority complex by taking care of their physical defects. Following the Second World War, plastic surgeons sought new markets. In a post-war America obsessed with youthfulness and social and economic mobility, Haiken suggests that middle-aged women felt particularly vulnerable. Many employers, for instance, valued a youthful appearance, with publications like *Science Digest* emphasising the 'economic necessity' of undergoing plastic surgery for middle aged women.⁷⁰ A slew of publications spoke of face lift surgery being able to completely transform women's lives. According to most newspaper and magazine articles,

⁶⁵ Elizabeth Haiken, *Venus Envy: A History of Cosmetic Surgery* (Baltimore: Johns Hopkins University Press, 1999), 91.

⁶⁶ *Ibid*, 92.

⁶⁷ *Ibid*.

⁶⁸ *Ibid*, 95.

⁶⁹ *Ibid*, 109.

⁷⁰ *Ibid*, 147.

achieving a youthful, wrinkle free complexion could increase a women's confidence, improve her chances of finding a husband and being promoted in the workplace.⁷¹ Acne has had similar social and economic implications for sufferers. As Chapter Four demonstrates, acne also hindered sufferers in their professional and social lives, with some employers refusing to hiring sufferers due to the stigma associated with it.

Sander Gilman's cultural history of plastic surgery reaffirms how important achieving a socially acceptable level of attractiveness became in the twentieth century. Gilman's hypothesis is that, since plastic surgery's introduction, people have used it to 'pass' into more socially appealing groups:

The wish to be erotic is the desire to 'pass,' not to 'pass' as unnoticed, but to 'pass' as desired, to 'pass' into the group that silently acknowledges itself as erotic. It is to identify so intensely with the idealised image of that group that you will yourself to become one with them. Indeed, 'passing' is never vanishing, but rather merging with a very visible group. The boundaries between the beautiful and the ugly, between the happy and the unhappy, are also those between the erotic and the unerotic. 'Black' and 'Jewish' and 'Irish' noses are unerotic; the missing foreskin is a turn-off. The missing nose may well be the greatest antierotic sign of them all.⁷²

Influenced by Canadian-American sociologist Erving Goffman's 1963 *Stigma: Notes on the Management of Spoiled Identity*, Gilman's methodology is strengthened by the range of sources he uses, ranging from literary sources to those from the arts, cinema, theatre and statistics deriving from institutions like the American Society of Plastic Surgeons.⁷³ Gilman argues that aesthetic surgery enabled racial and ethnic groups like the Irish and Jews to correct the physical markers which helped identify them as belonging to a supposed lower class of people. For instance, surgeon John Orlando Roe played a role in 'curing' the Irish of their pug noses

⁷¹ Ibid, 149.

⁷² Sander L. Gilman, *Making the Body Beautiful: A Cultural History of Aesthetic Surgery* (Princeton: Princeton University Press, 2000), 206.

⁷³ Erving Goffman, *Stigma: Notes on the Management of Spoiled Identity* (New York: Simon & Schuster, 1963).

towards the end of the nineteenth century. As Roe could fix their noses without leaving behind any noticeable scars, the Irish were no longer visibly identifiable as Irish immigrants. Plastic surgery of the nose features prominently in Gilman's study, from discussion of the ugly and diseased connotations of the syphilitic nose at the beginning of the twentieth century to consideration of anxieties around having a nose that is too small, too big or too flat.⁷⁴ Gilman's theory provides a solid framework for approaching acne.

Acne and the Adolescent

Building on the history of paediatrics, the history of adolescent medicine has attracted recent interest.⁷⁵ Among the most notable monographs to emerge in this field has been Heather Prescott's *A Doctor of Their Own: The History of Adolescent Medicine*, which investigates the factors contributing to the formation of adolescent medicine in post-war America. Drawing on oral histories from paediatricians, medical research and letters from adolescent patients and their parents, Prescott argues that the speciality of adolescent medicine was formed as a response to 'broader sociocultural concerns about adolescents in mid-century America'.⁷⁶

⁷⁴ Gilman, *Making the Body Beautiful*, 91-98. Goffman has also been taken up in the case of disability. Jeffrey A. Brune and Daniel J. Wilson, *Disability and Passing: Blurring the Lines of Identity* (Temple University Press, Philadelphia, 2013).

⁷⁵ Alexandra Minna Stern and Howard Markel's edited collection of essays, for example, examines a wide range of issues such as the rise of paediatrics as a medical speciality, the history of infant mortality, the life and career of the 'father of paediatrics', Abraham Jacobi, and the early efforts of paediatricians to standardise children according to their height and weight. Alexandra Minna Stern and Howard Markel (eds), *Formative Years: Children's Health in the United States, 1880-2000* (Ann Arbor: University of Michigan Press, 2004). For more general overviews of the growth of paediatrics in the United States see: Thomas E. Cone, Jr, *History of American Paediatrics* (Boston: Little Brown and Co, 1979); Sydney Ann Halpern, *American Paediatrics: The Social Dynamics of Professionalism, 1880-1980* (Berkeley: University of California Press, 1992). Similarly, historian Stephen Lassoond has argued that, from the late nineteenth century, groups of specialists became increasingly concerned about the physical and emotional well-being of children and adolescents. As well as the emerging field of paediatrics, the growing interest in "child study" witnessed the 'rise of child psychology, the child guidance movement, the anti-child labour movement, the playground movement and the accelerating demand for child-rearing expertise'. Stephen Lassoond, 'Age Schooling, and Development', in Paula S. Fass (ed.) *The Routledge History of Childhood in the Western World* (London: Routledge, 2012), 219.

⁷⁶ Heather Prescott, *A Doctor of Their Own: The History of Adolescent Medicine* (Boston: Harvard University Press, 1998), 2.

Following the Second World War, Prescott attests that fears regarding the poor mental and physical health of American teenagers led to a range of medical specialists calling for more attention to be paid towards the health of adolescents. Specialists like dermatologists, endocrinologists, plastic surgeons and orthodontists (amongst others) capitalised on new theories relating to the link between ‘physical appearance and adolescent peer adjustment’.⁷⁷ The poor physical and mental health status of the adolescent population was also considered a threat to national security and ultimately justified medical intervention.⁷⁸ Although Prescott contributes significantly to how the psychological and social problems faced by teens were conceptualised, she does not address acne or its physical, emotional and social costs, despite the fact that, as early as 1931, Swiss dermatologist Bruno Bloch had argued that acne could be regarded as ‘a physiological manifestation of puberty’.⁷⁹

While Kathleen Jones examines the child guidance clinics established throughout America during the early to mid-twentieth century, Prescott’s study investigates the role adolescent medicine specialists played in providing more focussed and holistic care to teenagers beginning in the 1950s.⁸⁰ Often referred to as the ‘father of adolescent medicine’, paediatrician James Roswell Gallagher believed that there was a link between poor mental health and social

⁷⁷ Ibid, 35.

⁷⁸ In 1904 American psychologist, child-study pioneer and educator Granville Stanley Hall published his seminal study *Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education*. Laying the groundwork for the ‘beginning of the field of adolescence as an area of scholarly and scientific research’, Hall introduced the concept of ‘storm and stress’ – the theory that all adolescents inevitably go through a period of emotional and behavioural turmoil. During a period of rapid industrialisation and urbanisation, Hall expressed concern about the physical and mental health of American adolescents. During adolescence – which he identified as being between the ages of 14 and 24 – youth were likely to be aggressive towards parents, be disruptive and engage in risky behaviours which had the potential to harm themselves and/or others. Moreover, as the late nineteenth and early twentieth century brought significant social, cultural and technological changes, Hall believed that urban life exposed adolescents to dangerous ‘temptations’ and made them more likely to commit criminal acts. Granville Stanley Hall, *Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education* (New York, D. Appleton and Company, 1904).

⁷⁹ Bruno Bloch, ‘Metabolism, Endocrine Glands and Skin Diseases with Special Reference to Acne Vulgaris and Xanthoma’, *Br J Derm Syphil* 43 (1931), 51-87

⁸⁰ Kathleen W. Jones, *Taming the Troublesome Child: American Families, Child Guidance and the Limits of Psychiatric Authority* (Boston: Harvard University Press, 2002)

instability. In Gallagher's view, 'personality disorders were at the root of fascism, crime, juvenile delinquency, and other social problems facing Western society'.⁸¹ Coincidentally, concerns regarding the poor health of adolescents coincided with the 'professional interests of paediatricians, who were seeking to expand their therapeutic mandate during this period'.⁸² It was amidst this 'redefinition of the professional boundaries and intellectual scope' of paediatrics that the Boston Adolescent Unit was founded by Gallagher in 1951. Prescott argues that Gallagher's approach to treating adolescent patients 'set the field apart from any other branch of medicine'.⁸³ Adopting a 'whole patient' approach, Gallagher emphasised examining teenagers from a variety of psychological, sociological and physiological perspectives. Key to this approach was a supportive and emphatic doctor/patient relationship, providing every adolescent with a 'doctor of their own'.⁸⁴ Gallagher also advised that physicians should try and convince adolescents to accept their perceived physical abnormalities and urged parents to do the same.

Other histories of adolescent health help to explain why concerns over adolescent acne became heightened in the post-war period. Paediatricians Elizabeth M. Alderman, Jessica Rieder and Michael Cohen, for example, detail some of the key scientific advances and societal changes which contributed to the growth and establishment of adolescent medicine. According to the authors, parent fields such as paediatrics, psychiatry, internal medicine and gynaecology historically tended to overlook the adolescent patient.⁸⁵ The authors argue that the lack of such a specialty 'provided the opportunity for the adolescent medicine specialist to incorporate the contributions from the parent fields into a growing field that specifically addressed the needs

⁸¹ Prescott, *A Doctor of Their Own*, 43.

⁸² *Ibid*, 35.

⁸³ *Ibid*, 3.

⁸⁴ *Ibid*.

⁸⁵ Elizabeth M. Alderman, Jessica Rieder and Michael Cohen, 'The History of Adolescent Medicine', *Pediatr Res* 54 (2003), 137-147.

of the adolescent patient'.⁸⁶ From the 1930s onwards, medical studies investigating the development of adolescent bodies were conducted, examining issues such as the sexual changes that adolescents encounter during puberty, the skeletal development of adolescents and the main differences between 'the body composition of boys and girls'.⁸⁷ Such studies helped adolescent medicine 'achieve definition and, with it, separation and ultimately subspecialty status'.⁸⁸ At a time when adolescents were undergoing many physical, social and psychological changes, the post-war environment was believed to have deeply 'influenced adolescent behaviours and health'. In the US, the post-war baby boom led to a 'demographic shift' which witnessed seventy-five million babies being born between 1945 and 1964. According to Alderman, Rieder and Cohen, the exponential growth in the population and the significant societal changes experienced by American society therefore 'played a significant role in stimulating the growth of adolescent medicine'.⁸⁹

In a follow-up article, Alderman, Rieder and Cohen argued that the rise of adolescent medicine was 'marked by three phases'. In the first phase the authors claim that there was an improvement in health care for adolescents during the late nineteenth century in England when 'physicians who cared for adolescent boys in boarding schools formed the Medical Officers Schools Association'.⁹⁰ The next phase occurred 'when services to adolescents moved beyond the school to academic medical centres and professional and federal organisations' during the middle of the twentieth century. With financial support from the American government, more medical facilities focussed specifically on adolescent health were opened. The final phase occurred in the late twentieth century and involved the 'formalization of the field of adolescent

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Jessica Rieder, Elizabeth Alderman and Michael I. Cohen, 'Adolescent Medicine: Emergence of a New Specialty', *AMA J Ethics* 7 (2005), 1-4.

medicine with the institutionalization of community-based, interdisciplinary adolescent medicine, preventive and treatment services in general paediatric programs, general paediatric practices, and school-based health centres'.⁹¹ This article is helpful in providing context for the establishment of acne clinics in post-war America and for helping to explain why adolescent acne sufferers increasingly sought out professional help for overcoming their skin problems.

Others have investigated the experiences of adolescent medicine specialists during this period. *Teens and Their Doctors: The Story of the Development of Adolescent Medicine*, written by paediatrician Henry Berman and paediatric nurse Hannah Dashefsky, is based on interviews with over eighty-three adolescent medicine specialists focussing on the seventeen-years between 1951, when Roswell Gallagher created the Boston Adolescent Unit, and 1968, when the Society for Adolescent Medicine was formed.⁹² The contributors recall the many social, economic and political barriers adolescent medicine had to overcome in the post-war period and demonstrate how specialists adapted to the medical needs of their patients.⁹³ Paediatrician Karen Hein, for example, stressed the role adolescent specialists played in being 'their patients' advocates – in every situation, including with other doctors'.⁹⁴

In *Perfectly Average: The Pursuit of Normality in Post War America*, cultural historian Anna Creadick argues that 'between the years of 1943 and 1963, normality emerged as a "keyword" of American culture, broadly disseminated through the increasingly porous domains of science, medicine, psychiatry and an increasingly nationalised popular culture'.⁹⁵ Creadick cites the example of the sculptures Normman (Figure 2) and Norma (Figure 3) who were said to represent the 'average' American male and female body during this period.

⁹¹ Ibid.

⁹² Henry Berman and Hannah Dashefsky, *Teens and Their Doctors: The Story of the Development of Adolescent Medicine* (Cambridge: Science History Publications, 2017).

⁹³ Ibid, 171.

⁹⁴ Ibid.

⁹⁵ Anna G. Creadick, *Perfectly Average: The Pursuit of Normality in Postwar America* (Boston: University of Massachusetts Press, 2010), 3.

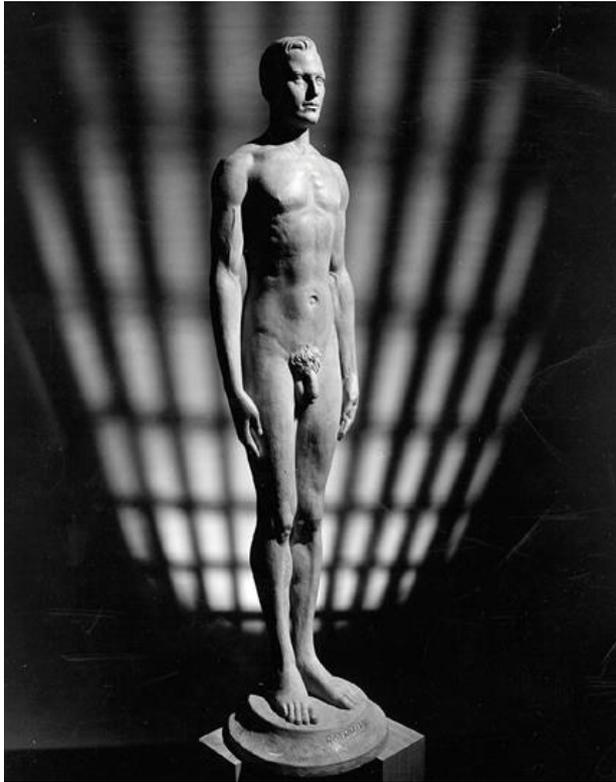


Figure 2 'Normman'.⁹⁶

⁹⁶ Images available from <http://www.cabinetmagazine.org/issues/15/cambers.php>, Accessed 9 November 2019.



Figure 3 'Norma'.⁹⁷

Created in 1942 by sexologist Robert L Dickinson using anthropometric measurements, the youthful, white and able-bodied features embodied what the post-war Americans should strive to achieve.⁹⁸ The young, hairless and smooth sculptures – untouched by the ravages of war – were in direct contrast to the millions of physically and psychologically scarred veterans. The statues became a 'tangible sign, object signifiers of the idea of a normal body: white, youthful, reproductive, able and intact'.⁹⁹ In the face of "Other" bodies such as crippled veterans, emaciated soldiers released from Japanese prisoner of war camps, the victims of the Holocaust and African Americans, America defined, cast in plaster and paraded a 'definition of the normal

⁹⁷ Ibid.

⁹⁸ Creadick, *Perfectly Average*, 15.

⁹⁹ Ibid, 22.

body that was explicitly young, able, white and strong'.¹⁰⁰ Displayed in the Cleveland Health Museum, smaller scale imitations of the sculptures were also distributed to teachers, doctors and marriage counsellors – perhaps an indication of the pressure adolescents faced when attempting to conform to the idealised image of perfect health and physical beauty.

In *The Body Project: An Intimate History of American Girls*, Joan Jacobs Brumberg writes from a feminist perspective, using diaries from nineteenth- and twentieth-century girls to demonstrate the shift in attitudes towards the female adolescent body. During the nineteenth century girls placed more emphasis on good moral character, whereas girls in the late-twentieth century made the 'body into an all-consuming project in many ways young women of the past did not'.¹⁰¹ From the mid-twentieth century onwards, however, girls' bodies became 'something to be managed and maintained' by purchasing clothing, cosmetics and grooming products.¹⁰² With regards to skin, Brumberg argues that cultural mandates linking femininity to unblemished skin has had a disproportionate impact on young girls and women. Brumberg touches on important issues such as the mental anguish acne caused girls throughout the twentieth century, the great sensitivity ethnic communities felt towards the condition due to its association with uncleanliness and the extensive range of treatments marketed to girls to control the condition.¹⁰³ Building on Brumberg's work, this project will also offer a more in-depth analysis of the psychosocial impact acne had on sufferers during this period.

In his analysis of adolescence during the modern period, for example, Don Romesburg has argued that 'hopes and concerns about teenagers were also bound into consumerism'.¹⁰⁴ During the post-war period, adolescents represented a burgeoning new consumer market. Advertisers

¹⁰⁰ Ibid.

¹⁰¹ Joan Jacobs Brumberg, *The Body Project: An Intimate History of American Girls* (Vintage Books: New York, 1998), 3.

¹⁰² Ibid, 7.

¹⁰³ Ibid, 57-95.

¹⁰⁴ Don Romesburg, 'Making Adolescence More or Less Modern', in Paula S. Fass (ed.), *The Routledge History of Childhood in the Western World*, 240.

marketed a range of menstrual products and junior sized clothes to young girls – a move which Romesburg argues ‘put bodily functions and diverse shapes at odds with the streamlined, attractive, sexually aware but innocent teenage body’.¹⁰⁵ Similarly, in *Hope in a Jar: The Making of America’s Beauty Culture*, historian Kathy Peiss examines the strategies used by the cosmetics industry to target teenage consumers in the post-war period.¹⁰⁶ Drawing on a significant range of primary sources such as archival records, beauty guides, advice manuals and a rich array of advertisements, Peiss demonstrates how marketers often directed ‘attention to both facial surfaces and psychological depths’ within adverts aimed at teenage audiences. Advertisements claimed that, by using their beauty products, girls had the potential to have better mental health, better job prospects and increased popularity. Teenage boys were also targeted. Peiss demonstrates that male school and college students became the object of advertisements for grooming aids and aftershave, which emphasised that girls would not date boys who did not use their products.¹⁰⁷ This thesis similarly shows that perfect skin remained a powerful ideal throughout the twentieth century – powerful enough to convince physicians and patients that the side effects of drugs, such as Accutane, were worth risking if a clear and youthful skin complexion could be realised.

Pharmaceutical Historiography

The controversy surrounding Accutane has attracted attention from legal scholars, academics and the media. The drug has been used, for instance, as a case study by legal students to demonstrate the ‘shortcomings’ of the American drug regulatory system.¹⁰⁸ Accutane was also

¹⁰⁵ Ibid.

¹⁰⁶ Kathy Peiss, *Hope in a Jar: The Making of America’s Beauty Culture* (Philadelphia: University of Pennsylvania Press, 2011), 252.

¹⁰⁷ Ibid, 255.

¹⁰⁸ For specific examples see: Krause, ‘Accutane’, 1-29; Gina M. Petrocelli, ‘Accutane: Post-Approval Drug Regulation in a Risk Management Framework’, Harvard Law School Food & Drug Law Paper (2002) <https://dash.harvard.edu/bitstream/handle/1/8848242/petrocelli.pdf?sequence=1&isAllowed=y>, Accessed 10 May 2019; Ami E. Doshi, ‘The Cost of Clear Skin: Balancing the Social and Safety Costs of iPLEDGE with the Efficacy of Accutane (Isotretinoin)’, *Seton Hall Law Rev* 37 (2007), 625-60.

the focus of a book by psychiatry professor Doug Bremner. Bremner's association of Accutane with depression and suicide attracted the attention of Roche, which tried to silence the whistleblower.¹⁰⁹ In Britain and North America, Accutane has also been covered extensively by the media with a litigation case involving Hollywood actor, James Marshall, gaining widespread coverage. After taking Accutane, Marshall, who starred in Hollywood blockbuster, *A Few Good Men*, had to have his colon removed as a result of contracting inflammatory bowel disease. Whilst Marshall blamed Accutane for his predicament, Martin Sheen testified in court that the drug had undoubtedly robbed Marshall of pursuing a lucrative career as an actor.¹¹⁰ In Britain, the BBC aired a documentary entitled "Dying for Clear Skin" in 2012 which focussed on patients who had taken the drug to eradicate their acne. The short film, which featured teenagers who accused Accutane of causing sexual dysfunction, also included interviews with family members of victims who had committed suicide whilst taking the drug.¹¹¹

In 2002, Harvard Law School student, Julia Green, argued that the challenges posed by Accutane 'exposed many of the FDA's vulnerabilities' as it 'has no authority over doctors or patients, the two groups who ultimately control whether a foetus will be exposed to Accutane'.¹¹² Moreover, Green contended that the Accutane story exposed the 'limitations of liberalism' as the dangers associated with the drug could not be 'satisfactorily addressed through consumers warnings' given that fetuses, considered the true victims of the drug, were

¹⁰⁹ Doug Bremner, *The Goose That Laid the Golden Egg: Accutane, the Truth that had to be Told* (Atlanta: Laughing Cow Books, 2011).

¹¹⁰ Jef Feeley, 'Roche Drug Trial Witness Dennehy Says Actor's Loss a 'Tragedy'', *Bloomberg News* (March 2011) <http://www.bloomberg.com/news/articles/2011-03-10/roche-s-accutane-caused-tragedy-for-actor-brian-dennehy-says>, Accessed 9 February 2016.

¹¹¹ BBC Three, 'Dying for Clear Skin', <https://www.youtube.com/watch?v=PgpYS33kMVC>, Accessed 10 February 2016. The debate concerning the pros and cons associated with Accutane has also featured heavily in the *Daily Mail*. For specific examples see: Zoe Brennan, 'Did an acne drug drive these young people to suicide?', *Daily Mail* (December 2012); Jo Waters, 'Should the drug that transformed Megan's skin be banned', *Daily Mail* (November 2013).

¹¹² Julia Green, 'Babies, Blemishes and FDA: A History of Accutane Regulation in the United States', LEDA at Harvard Law School (March 2002), 1-26. <https://dash.harvard.edu/bitstream/handle/1/8963867/Green.html?sequence=2>, Accessed 2 February 2016.

unable to provide informed consent.¹¹³ Green asserted that Accutane ‘repeatedly pushed the frontier of FDA regulation, as the agency struggled to adapt its tools to meet the challenge of an extremely effective and dangerous medication’. Building on Green’s work, this thesis considers the cultural, social, economic and political factors which contributed to the approval of Accutane and the multifaceted reasons behind the FDA’s inability to restrict the drug. Accutane was approved during a period of ‘regulatory reform at the FDA’ and there is evidence to suggest it was fast-tracked through the approval process.¹¹⁴ Moreover, as chapter 6 demonstrates, the Reagan administration’s dismantling of the Patient Package Insert scheme also put those taking Accutane at risk, as doctors and pharmacists were no longer obliged to distribute warnings concerning the drug’s many side effects.

In his analysis of the Reagan Administration’s impact on the FDA, Lucas Richert has argued that Reagan ‘made it a priority to reshape and reform the FDA in a reasonable way’.¹¹⁵ Determined to ‘reduce the size and scope of government and curtail regulation’, Reagan appointed ‘moderate deregulators’ to oversee the FDA and the Department of Health and Human Services to modify the ‘status quo’.¹¹⁶ Key appointments, such as Dr Arthur Hull Hayes as Commissioner of the FDA and Richard Schweiker as Secretary of Health and Human Services, were under no illusions about what was required in their new roles. Both Hayes and Schweiker were committed to creating a stronger and more accommodating relationship between the pharmaceutical industry and the FDA. They both believed that drug regulations needed to be relaxed:

One of the top priorities of this department [Health and Human Services] is to promote public health by encouraging the development of useful new drugs and removing needless barriers to their swift

¹¹³ Ibid.

¹¹⁴ Lucas Richert, *Conservatism, Consumer Choice, and the Food and Drug Administration During the Reagan Era: A Prescription for Scandal* (Washington, DC: Lexington Books, 2014), 193.

¹¹⁵ Ibid.

¹¹⁶ Ibid, 88.

approval by the FDA. Commissioner Hayes and I are committed to this goal.¹¹⁷

Hayes insisted that FDA officials were to ‘cooperate with industry’ and to ‘act in a collaborative fashion as opposed to a combative one, as consultants rather than cops’.¹¹⁸ During Reagan’s first year as president, the levels of enforcement actions dropped between forty-five and fifty per cent. The new policy of voluntary compliance was criticised by FDA historian, Herbert Burkhol, who suggested that the FDA’s new relationship with the pharmaceutical industry was ‘tantamount to inviting the lions to lie down with the lambs’.¹¹⁹

Also relevant to the history of Accutane is the manner in which the public, medical community and drug regulatory bodies have understood the teratogenic effects of drugs. Historian Rock Brynner and microbiologist Trent Stephens’ exploration of the thalidomide tragedy is particularly useful in helping contextualise why the approval of the teratogenic Accutane in the early 1980s became so contentious. In the US, ‘the thalidomide episode had a swift, significant, and lasting effect on the regulation of drugs’, thanks largely to the 1962 Kefauver–Harris Amendments which required drug manufacturers to prove both the efficacy and safety of their products.¹²⁰ Prescribed throughout forty-six countries during the late 1950s and early 1960s to treat a range of ailments such as colds, flu and sleeplessness, thalidomide was found to cause horrific birth defects and spontaneous abortions when taken by pregnant women.¹²¹ Invented in 1954 by German pharmaceutical firm Chemie-Grünenthal, thalidomide was originally marketed as a sedative under the trade name Contergan and released to markets throughout Europe and across the world. William S Merrell Company obtained the rights from Grünenthal to market the drug throughout the US and were ready to flood ‘the biggest drug market in the

¹¹⁷ Ibid.

¹¹⁸ Ibid, 101.

¹¹⁹ Ibid.

¹²⁰ Rock Brynner and Trent Stephens, *Dark Remedy: The Impact Of Thalidomide And Its Revival As A Vital Medicine* (New York: Perseus Publishing, 2001), 101.

¹²¹ Ibid, 16.

world' with ten million tablets.¹²² FDA medical officer, Francis Kelsey, however, found the application 'wanting in many respects' and refused to approve it until she had been provided with further information proving the drug's safety profile in humans.¹²³ As the scope of the tragedy became clear in the following years, Kelsey was hailed as a hero for preventing an appalling American tragedy and was awarded with the President's Award for Distinguished Federal Civilian Service by President Kennedy. Brynner and Stephens' analysis of Merrell's behaviour in attempting to gain US approval for thalidomide has parallels with the conduct of Roche during the Accutane affair. Knowing that thalidomide caused nerve damage, Merrell planned on declaring on the American label that the drug was 'safe to take during pregnancy' – a claim they could not substantiate. Roche were similarly defensive of Accutane; they refused to withdraw the drug from the market despite the drug being a known teratogen and being linked with other serious side effects like depression and suicide.¹²⁴

Janet Golden's analysis of foetal alcohol syndrome (FAS), likewise, provides a framework for approaching Accutane, demonstrating both the growing awareness of foetal vulnerability during the second half of the twentieth century and the difficulties associated with changing patient and physician behaviour. From the early 1960s the American public and medical community had been 'primed to understand foetal vulnerability' and readily accepted the findings of researchers that alcohol was a potent teratogenic.¹²⁵ After the thalidomide scandal,

¹²² Ibid, 39.

¹²³ Ibid, 48.

¹²⁴ Similarly, in Britain, Primodos – a hormone-based pregnancy test – was kept on the market for nearly a decade after it had been implicated in causing Spina bifida and other birth defects in the children of mothers who had taken the hormone-based pregnancy test during pregnancy. Whilst countries like Norway took a more 'precautionary line' and removed HPTs from the market, it has been suggested that 'the regulatory process in Britain was clearly influenced by nationally specific and even idiosyncratic factors'. Jesse Olszynko-Gryn, Eira Bjørvik, Merle Weßel, Solveig Jülich and Cyrille Jean, 'A historical argument for regulatory failure in the case of Primodos and other hormone pregnancy tests', *Reprod Biomed Soc Online* 6 (2018), 34-44.

¹²⁵ Janet Golden, 'Framework as Prison: Interpreting Fetal Alcohol Syndrome in the Late Twentieth Century' in Alexandra Minna Stern and Howard Markel (eds), *Formative Years: Children's Health in the United States, 1880- 2000* (Ann Arbor: University of Michigan Press, 2004), 264. Janet Golden has argued that, during its brief history, 'FAS has been medicalised and, at times, demedicalised. It is a diagnosis, a scientific subject, and a public health problem. It is also a symbol of maternal misbehaviour, evidence of moral decay within particular communities, and a claim asserted by death-penalty opponents as well as condemned prisoners'. Janet Golden,

other examples raised awareness of foetal vulnerability during pregnancy. Between 1963 and 1964, for example, thousands of American women were infected with the rubella virus, resulting in 30,000 babies suffering from defects such as ‘severe mental retardation, blindness, and deafness’.¹²⁶ Furthermore, in 1971, the synthetic estrogen diethylstilbestrol (DES) was implicated in causing a rare form of vaginal cancer amongst women who had been prescribed the drug to prevent miscarriages.¹²⁷ Although the American public’s knowledge about teratogens had grown as a result of such public tragedies, reducing cases of FAS nevertheless proved difficult.¹²⁸ At first, it appeared that FAS could be avoided if pregnant women simply abstained from alcohol. According to Golden, public health measures centred on spreading information about FAS by disseminating leaflets throughout doctors’ surgeries and introducing a 1988 federal law which mandated that warning labels be included with alcoholic drinks. Though Golden asserts that these measures proved successful in raising awareness about FAS amongst light and moderate drinkers, it was found that chronic female alcoholics of childbearing age failed to change their behaviours. Doctors, in turn, were displeased with what they viewed as government interference and an ‘attempt to usurp the doctor’s role as patient adviser’.¹²⁹

Andrea Tone and Elizabeth Sigel Watkins’ edited volume *Medicating Modern America: Prescription Drugs in History* also offers insights into why the prevention of acne by

Message in a Bottle: The Making of Fetal Alcohol Syndrome, (Cambridge, Massachusetts: Harvard University Press, 2006), 12.

¹²⁶ Ibid, 263. Leslie Reagan has shown that, ‘in fear of the potential consequences of German measles (also known as *rubella*) many women sought abortions although abortion was illegal at the time’. Leslie J. Reagan, *Dangerous Pregnancies: Mothers, Disabilities, and Abortion in Modern America*, (California: University of California Press, 2012), 1.

¹²⁷ For more on the history and impact Diethylstilbestrol had on the daughters of women prescribed the drug see: Susan E. Bell, *DES Daughters, Embodied Knowledge, and the Transformation of Women's Health Politics in the Late Twentieth Century* (Philadelphia, Pennsylvania: Temple University Press, 2009).

¹²⁸ Ibid.

¹²⁹ Ibid, 273. Interestingly, as Elizabeth Armstrong has pointed out, ‘in the 1960s physicians began to prescribe alcohol therapeutically in pregnancy to arrest preterm labour’. Elizabeth M. Armstrong, *Conceiving Risk, Bearing Responsibility: Fetal Alcohol Syndrome and the Diagnosis of Moral Disorder*, (Baltimore: The Johns Hopkins University Press, 2008), 73.

pharmacological means became increasingly popular in the post-war period. The book investigates the ‘development, prescription and consumption’ of eight major drugs in the post-war era, including antibiotics, mood stabilizers, hormone replacement therapy, oral contraceptives, tranquillizers, stimulants, statins and Viagra.¹³⁰ During the post-war period, the introduction of new, mass-produced drugs like corticosteroids, broad spectrum antibiotics and antidepressants (amongst others) provided doctors with a vast armamentarium of medications. The passing of the 1951 Durham-Humphrey Amendments to the 1938 Food, Drug, and Cosmetic Act introduced the federal prescription-only classification which mandated that anyone wishing to obtain potentially dangerous drugs now required a prescription from a doctor. The new law effectively established ‘doctors as expert gatekeepers to drugs and positioned reputable and increasingly, large scale pharmaceutical companies as the primary suppliers of prescription medicines’.¹³¹

Oral History

According to Roy Porter, it took ‘two to make a medical encounter – the sick person as well as the doctor; and for this reason, one might contend that medical history ought centrally to be about the two-way encounters between doctors and patients’.¹³² The history of medicine showed that the sick person often played a significant role in their recovery from ill health through, for example, alternative self-help remedies. Porter claimed that historians had to ‘lower the medical gaze’ and offer analysis on how patients interpreted their exchanges with medical professionals. Although Roy Porter’s seminal article received an enthusiastic response from students and academics alike, some scholars have claimed that ‘the history of the patient remains curiously underwritten in several areas’ not least the history of psychiatry and

¹³⁰ Andrea Tone and Elizabeth Sigel Watkins, *Medicating Modern America: Prescription Drugs in History* (New York: NYU Press, 2007), 3.

¹³¹ *Ibid.*

¹³² Roy Porter, ‘The Patient’s View: Doing Medical History from Below’, *Theory Soc* 14 (1985), 175-198.

disability.¹³³ Celebrated for having ‘opened up new paths’ for historians attempting to better understand the experience of patients, Porter’s call for more patient-centred studies has led to more historians utilising sources such as patient autobiographies, letters, asylum notes, anthologies of first person accounts, case studies, and accounts of patient experience published in newspaper and magazine articles.¹³⁴ While the aforementioned sources are imperative for historians researching earlier periods, for those focussing on twentieth and early twenty-first century histories, evidence gathered from interviews can ‘provide access to the voices and experiences of those usually absent from documentary record’.¹³⁵ Moreover, interviews with patients have been said to ‘uncover the hidden voice of the patient’ which thus provides a ‘contrast with that of the medical profession’.¹³⁶ Michelle Winslow and Graham Smith also contend that ‘it is a mark of the contribution of oral history to the history of medicine that studies located within living memory are open to criticism if they fail to include oral history’.¹³⁷

Historian Ali Haggett, for example, used oral history to challenge studies by feminist commentators which argued that in the post-war period ‘the banality and stultification of the domestic role caused mental illness in women’.¹³⁸ Using oral history testimonies of over thirty-five women from England, Wales and Scotland, all of whom had experienced domestic life during the 1950s and 1960s, Haggett has suggested that some scholars have overlooked ‘alternative contributory factors’ which were responsible for causing a range of psychological problems suffered by women during this period. Instead of locating their mental health problems in relation to their ‘role as homemakers’, Haggett found that those interviewed

¹³³ Alexandra Bacopoulos-Viau and Aude Fauvel, ‘The Patient’s Turn: Roy Porter and Psychiatry’s Tales, Thirty Years on’, *Med Hist* 60 (2016), 1-18.

¹³⁴ *Ibid.*

¹³⁵ Kate Fisher, ‘Oral Testimony and the History of Medicine’ in Mark Jackson (ed.), *The Oxford Handbook of the History of Medicine* (Oxford: Oxford University Press, 2013), 601.

¹³⁶ *Ibid.*

¹³⁷ Michelle Winslow and Graham Smith, ‘Ethical Challenges in the Oral History of Medicine’, in Donald A. Ritchie (ed.), *The Oxford Handbook of Oral History* (Oxford: Oxford University Press, 2011), 372.

¹³⁸ Ali Haggett, ‘Desperate Housewives and the Domestic Environment in Post-war Britain: Individual Perspectives’, *Oral Hist* 37 (2009), 53-60.

attributed their psychological symptoms to ‘distressing childhood events, unhappy marriages and occasionally a familial predisposition to mental illness’. Moreover, in many cases, once circumstances had improved interviewees often attested to experiencing significant improvements in their mental well-being. Although some scholars have suggested that women in the post-war period were discontented with their often tedious and exhausting role of homemaker, Haggett’s study thus calls into question such findings by showing that ‘domestic life provided many of them with a role that they valued and, in many cases enjoyed’.

This thesis also utilises oral history to uncover the lived experience of acne sufferers, including why they were willing to take Accutane, and hints at the agency employed by sufferers in determining the specific therapy that was right for them. Although some trends did emerge, it became clear that interviewees had different reasons for taking the drug. For example, whilst some hoped using Accutane would help them obtain a clear complexion and thus reduce the levels of stigma and bullying they received, others viewed Accutane as a last chance saloon after previously recording poor results from other anti-acne therapies. In addition, most interviewees attested to using a host of alternative therapies to treat their acne – a finding which reinforces Porter’s contention that patients have not always relied solely on guidance from physicians when trying to find suitable treatments for their medical ailments. By integrating oral history with documentary and archival source analysis, this project examines both medical understanding of acne and patient experiences, building on the work of other health historians who have utilised oral history effectively in their work to provide a patient-centred perspective. Susan Kelly, for example, employed an oral history methodology in an attempt to discover the reason behind Northern Irish tuberculosis survivors’ reluctance to discuss their experiences of the disease. Interviewing thirty-three adults who suffered from tuberculosis as children in Northern Ireland between 1926 and 1962, Kelly found that survivors were ‘often left with a

feeling of loss for all that the disease had robbed them of'.¹³⁹ As many interviewees were diagnosed with tuberculosis during childhood, they attested to believing the stigma associated with the disease had prohibited them from pursuing rewarding careers, romantic relationships and the ability to live independent lives. However, although the majority of interviewees disclosed that they encountered social exclusion as a result of being avoided by friends who were fearful of contracting the deadly condition, others claimed that their experience suffering from tuberculosis was 'quite positive' largely on account of feelings of nostalgia around their time housed at the sanatorium.¹⁴⁰ As well as having fond memories of the sanatorium, some interviewees spoke warmly about the close friendships they had made with other sufferers during their stay.

Mary Jo Festle similarly used an oral history methodology to better understand the lived experience of lung transplantation.¹⁴¹ Interviewing the recipients of lung transplants, Festle and her students argued that the experience taught them 'meaningful lessons about what it is like to live with lung disease, how people cope with the stress of dying and how a lung transplant changes a person's life'.¹⁴² Contrasting the findings with the methods used by health professionals to measure quality of life (QOL) in post-operative lung transplant recipients, Festle argues that, as a method, 'oral history has distinct advantages'.¹⁴³ In Festle's view, oral history interviews allow recipients to 'provide their own definitions of quality of life, determine for themselves in what areas they are doing well or need help, and assign their own values to the aspects of life they consider most important'.¹⁴⁴ For example, from the interviews Festle found that while some recipients may have been disappointed with their inability to work full-

¹³⁹ Susan Kelly, 'Stigma and silence: oral histories of tuberculosis', *Oral Hist* 39 (2011), 65-76.

¹⁴⁰ *Ibid.*, 74.

¹⁴¹ Mary Jo Festle, 'Qualifying the Quantifying: Assessing the Quality of Life of Lung Transplant Recipients', *Oral Hist Rev* 29 (2002), 59-86.

¹⁴² *Ibid.*, 61.

¹⁴³ *Ibid.*

¹⁴⁴ *Ibid.*, 62.

time, other recipients were overjoyed that their lung transplant has allowed them to ‘move around without oxygen and play with their grandchildren’.¹⁴⁵ Moreover participants also detailed the often gruelling rehabilitation required during the post-transplant phase, describing how they coped living under the constant fear of being struck down with a deadly post-op infection. Oral history, therefore, ensures that ‘respondents can address complexities and don’t have to force their experiences into pre-determined boxes’.¹⁴⁶

In his exploration of the Feingold diet – an elimination diet created by American allergist Benjamin Feingold which linked food additives and artificial food colourings to hyperactivity – historian Matthew Smith also utilised oral history interviews to determine how parents and hyperactive children implemented the restrictive diet into their daily lives.¹⁴⁷ Smith shows that doctors who considered the diet ‘virtually impossible to employ were incorrect’: many families did indeed successfully follow and stick with the diet for, in some cases, several decades. Moreover, the interviewees detailed why they tried the diet, outlined the strategies they adopted to overcome its restrictions and discussed whether they found the diet to be successful. Smith thus contends that understanding the experiences of families who tried the Feingold diet not only provides insights into the ‘validity of Feingold’s hypothesis but it tells us a great deal about the ability of patients and their families to inform debate about intractable medical controversies’.¹⁴⁸

This history of acne may be breaking new ground, but it is reliant on a rich historiography, ranging from the histories of skin and adolescents to the pharmaceutical industry and oral

¹⁴⁵ Ibid.

¹⁴⁶ Ibid, 84.

¹⁴⁷ Matthew Smith, *An Alternative History of Hyperactivity: Food Additives and the Feingold Diet* (New Jersey: Rutgers University Press, 2011).

¹⁴⁸ Ibid, 131.

history. These studies have provided the necessary cultural, social and scientific context for understanding why acne emerged as such a common and recalcitrant problem. They have also inspired the methodological approach for this thesis, which combines archival, published, media and oral history sources. In turn, it is hoped that the many themes explored in this thesis will be of interest to subsequent historians who try to explain the emergence and persistence of such conditions.

‘A Face to Die For’ provides the first history of both acne and Accutane. It uses a blend of archival, medical, media, advertising and oral history sources to understand the lengths to which people – especially teens – went in order to have a clear complexion. It also extends the historiography on the rise of dermatology as a medical speciality, focussing particularly on the sometimes-vociferous debates amongst dermatologists in the nineteenth and twentieth centuries regarding the causes of acne. It charts how the rise of adolescent culture during the post-war period sparked intensive concerns about the physical, psychological and social threat posed by acne, showing how physicians and pharmaceutical companies addressed the perceived health needs of adolescent patients. Moreover, the project explores the relationship between physicians and the drug industry, investigating why Accutane became the preferred treatment option for moderate and chronic acne from the 1980s onwards. Finally, the project explains how the risks and benefits of Accutane and other acne treatments were perceived by both patients and physicians, attempting to understand how such a dangerous drug became so popular.

As such, the project asks the following questions: How did the development of dermatology as a medical speciality shape understandings and attitudes towards acne? How has the acne sufferer been described and understood in medical discourse, popular literature, and within the media and in advertising? In what ways did the psychosocial impact of acne convince sufferers that Accutane was a ‘risk worth taking’? Why did Accutane become such a popular treatment

and what does this reveal about attitudes towards acne and drug therapy? Through the lens of acne and Accutane, 'A Face to Die For' sheds light on many unexamined aspects of twentieth-century health and medicine, including patient experience of chronic disease; adolescent health; the relationship between physicians and the drug industry; and the rise of medical professions. In order to understand the rise of Accutane from the early 1980s, it is necessary to examine the role played by groups such as doctors, dermatologists, psychiatrists and patients themselves. This thesis therefore proposes that acne was, to a significant extent, constructed by the medical community, pharmaceutical industry, and, indeed, the lay community. When considering the key components of the Accutane affair it is thus essential to refrain from underestimating the agency of acne sufferers, their parents, their dermatologists and their physicians.

Sources

This thesis relies on an extensive array of primary sources. The first category focusses on dermatological material from a range of archives throughout Britain and the US, including the British Association of Dermatology (Willan Library), the Stewart Craddock archives (Wellcome Trust) and the Boston Adolescent Unit Archival Records. These archives include papers and letters discussing the influence of dietary factors on acne, medical papers querying the causes and possible treatment options for acne, dermatological textbooks, medical textbooks, and newspapers from American and British dailies.

The second group of sources is drawn from medical literature produced by dermatologists, general practitioners and dieticians. Medical journals consulted include, but are not limited to, the *British Medical Journal (BMJ)*, *Journal of the American Medical Association (JAMA)*, *Journal of Adolescent Health (JAH)*, *Journal of Investigative Dermatology (J Invest Dermatol)*, *The Lancet*, *Canadian Medical Association Journal (CMAJ)*, *Archives of Disease in Childhood*

Arc Dis Child) and the *American Journal of Nursing (Am J Nurse)*, spanning the late nineteenth century to the present day. The material analysed within these journals includes articles written by dermatologists, findings from double-blind trials of new acne drugs, critical reviews of acne literature, discussions of clinical case studies of patients suffering from the condition, peer-reviewed papers, editorials and letters to the editor (including official position statements).

The third group includes media sources, beginning with British and American newspapers, magazines and advertisements. These sources showcase patient experiences of acne, medical columns and investigative articles examining the psychological side-effects of having acne. Advertisements illustrate the range of acne therapies promoted since the early twentieth century, as well as over-the-counter skin-care products. Such sources highlight the enormous pressures placed on adolescents to attain clear, unblemished skin. Magazines such as *Boy's Life*, *Chatelaine*, *Science*, *Ebony*, and *Parents' Magazine & Better Family Living* published during the mid-late twentieth century have also been examined. The material and adverts published within these magazines serve to highlight the kind of messages that were disseminated to adolescents regarding both acne and the importance of having clear, unblemished skin. In addition, magazines such as *Working Mother*, *Elle Girl*, *Life*, *Women's Health*, *Time* and *Popular Science* have been consulted to understand how acne was discussed more generally.

The project also draws on media reports investigating acne and similar skin conditions, newly released dermatological drugs and Accutane. As well as examining how Accutane was received by major American and British newspapers like the *New York Times*, *Washington Post* and the *Daily Mail*, smaller local newspapers and magazines have been consulted in order to ascertain what reception the drug gained from the independent press. Contemporary online media sources in both Britain and the US, such as the BBC, Sky News, have also been examined in

order to analyse how the recent controversies regarding Accutane have been discussed by lay people, journalists, science writers, health columnists, and the families of the patients who were prescribed the drug. Additionally, in order to examine the ways acne was constructed as a threat to the social order during the post-war period, this thesis also examines sociological and criminological literature from sources such as the *Federal Probation Journal* and the *American Sociological Review*.

The fourth group is drawn from material amassed by the Accutane/Roaccutane Action Group (RAG), formed in 1999. Established by patients and the families of patients negatively affected by taking Accutane for the treatment of acne, RAG provides researchers access to files including epidemiological studies relating to Accutane use, media reports, medical questionnaires, and transcripts from congressional hearings into Accutane use. The sources provided by RAG help identify how politicians, pharmacists, Roche representatives, lawyers, journalists, the medical profession and patients themselves have tackled the ongoing debate surrounding the safety of prescribing Accutane as a treatment for mild and severe forms of acne.

The fifth group of sources examined includes government literature, specifically concerning the role the FDA played in Accutane controversy. This material includes drug package inserts provided by the FDA, such as the iPLEDGE Program Patient programme which attempted to convince female users to agree to refrain from becoming pregnant whilst taking the drug, and the other labelling changes introduced by the FDA since the 1980s. I have also examined the transcripts from Congressional hearings, Dermatological Advisory Committee meetings and the House and Energy Commerce Committee meetings. Through an analysis of these sources, this thesis examines the role of the FDA in regulating new and dangerous drugs.

Finally, the primary source material in Chapter 7 consists of fourteen oral history interviews, including twelve with patients who were prescribed Accutane. It also includes one interview with a mother of a patient who took the drug and one interview with a beauty therapist who regularly treated acne sufferers with a range of alternative therapies during the 1980s and 1990s. These interviews provide insights into the factors that influenced patients to take Accutane and describe both the positive and negative aspects associated with taking the drug. The interviews conducted were semi-structured, allowing interviewees to shape the discourse and emphasise what they believe was important with respect to their experiences dealing with acne and taking Accutane. Although most interviews were conducted in person, some interviewees preferred to conduct the interview via email by written responses, on the telephone or via Skype. Following transcription, interviewees were sent a copy of the transcript to edit, redact or add to their original responses.

Chapter Outlines

Chapter 2 analyses the pre-history of acne, examining the increasing medical and social interests in acne during the second half of the nineteenth century and charting the development of dermatology as a specialist field. It also considers the development of novel treatments, such as x-ray therapy for treating acne. It contends that heightened concern over acne reflected broader social anxieties about class, sanitation reform, race and female beauty.

Chapter 3 examines the competing range of theories about the cause of acne during the early to mid-twentieth century, arguing that the lack of a unified approach in treating the condition undermined the development of a safe and permanent cure. Whilst bacteriologists believed acne was caused by a particular strain of bacteria and treated it by using a range of vaccines, allergists espoused the benefits of elimination diets. Moreover, endocrinologists and

psychiatrists further muddied the waters by proposing that acne should be treated with hormone therapy and psychoanalysis.

Chapter 4 examines the development of adolescent medicine and argues that the increased concern about teenage acne in the post-war period was a result of the establishment of a new specialist field geared towards improving teenage health. It explores the key role played by the founder of adolescent medicine, James Roswell Gallagher, and considers how his holistic, patient-centred approach to treating diseases like acne influenced both understandings of the skin condition and treatment strategies. It demonstrates that increased concern about the impact of acne on adolescent mental health led to it not only being constructed as a threat to the psychological and social well-being of teenage patients but, also, the social order of the US.

Chapter 5 examines the wide and varied range of anti-acne therapies used to treat the condition in the post-war period. By analysing drug advertisements, it argues that these marketing strategies played on acne sufferers' insecurities. It then explores how dermatologists embraced new drugs such as antibiotics, anti-depressants and tranquillisers to treat both the physical and mental side-effects associated with acne. In their desperate search for a cure, many acne sufferers sought out highly dangerous and unproven treatments, some provided by unscrupulous, profiteering doctors. Finally, it examines the introduction of retinoids to treat skin conditions and explores the search for a therapeutic which had the ability to dramatically reduce sebum output.

Chapter 6 charts the introduction of Accutane for treating severe acne and explains how the drug was received by the media, patients and the dermatological community. Examining Ronald Reagan's deregulation of the FDA, it argues that Accutane was fast-tracked through the drug approval process and shows that Reagan's dismantling of the patient package insert

(PPI) scheme exposed more fetuses to the teratogenic effects of Accutane. It then explores the challenges associated with trying to regulate a known teratogenic and considers the pressures the FDA faced from both proponents and opponents of Accutane. In addition, it charts the controversy surrounding Accutane's link to serious side-effects such as serious bowel disorders, depression, and suicide.

Chapter 7, which relies predominantly on oral history testimonies, examines the lived experience of acne; including the psychological and psychosocial burden that the condition had on patients during their formative years. It explores issues such as the impact bullying had on the mental health of acne sufferers, how the condition affected their interpersonal relationships and examines the coping strategies employed by patients to overcome the emotional stress associated with acne. Furthermore, it explores issues such as the alternative therapies acne sufferers used to treat the condition, the relationship patients had with their doctors and examines how they dealt with and overcame Accutane's serious side effects.

Chapter 8 concludes by assessing the contemporary issues drug regulatory agencies face when regulating Accutane and considers what lessons this history has for drug policy today. It also examines potential avenues for future research into the Accutane controversy, discusses what is considered 'abnormal' when it comes to physical appearances and reflects on how history can inform our approach to acne in future.

Chapter 2

Origins of Acne

Acne is not a dangerous disease, but its repulsive appearance, the exposed parts it occupies, and its obstinate and frequently rebellious character, invest it with a degree of importance and interest, which would not, perhaps, attach to it, if it occurred on any other region of the body. To females, especially, its existence is a source of absolute misery; and the amount of evil arising from the disease itself is insignificant when compared with the mental anxiety it occasions in this class of patients. The duration of the disease will vary according to the age of the patient and of the eruption itself, and according to the particular variety present.¹⁴⁹

This chapter begins by examining the origins of acne. It traces the origins of the term “acne” and explores the increasing medical and societal interest in the condition during the second half of the nineteenth century. It then explores the key roles played by Robert Willan and Thomas Bateman in developing a classification system for skin diseases in the early nineteenth century. Along with discussing the key developments in dermatology which helped establish the speciality as a field in its own right, the chapter examines early theories about the cause of acne. Finally, it considers the range of early treatments offered to acne sufferers. Overall, the chapter argues that medical and patient concern over acne reflected broader societal concerns about class, sanitation reform, race and female beauty in the nineteenth century. In addition, it suggests anxieties concerning acne paralleled and helped to spur the development of dermatology.

The Pre-History of Acne

Roman encyclopaedist Celsus is credited as the first person to describe a skin disease of the face which commonly affected adolescents, a condition he named ‘varius’ in order to emphasise

¹⁴⁹ Thomas H. Burgess, ‘Practical Observations on Diseases of the Skin: No. II. Eruptions of the Face’, *Prov Med J Retrosp Med Sci* 5 (1843), 307–310.

the ‘variety of the lesions’.¹⁵⁰ The origins of the term ‘acne’ have been linked to the sixth-century Byzantine Greek physician, Aëtius Amida.¹⁵¹ While there have been claims that Amida made a spelling error and initially intended to use the Greek term ‘akme’ (which translates as ‘high point’) to describe the spot, in 1951 Dr Russell B. Grant published a paper attempting to show this was a misconception.¹⁵² Consulting six of the earliest printed editions of medical texts created by Aëtius of Amida, Grant found the supposed misspelling of ‘acne’ featured in five out of the six editions.¹⁵³ As the Frankfurt edition is the only text featuring the misprint ‘acme’ (and includes several other spelling errors in the following lines), Grant argues that it is therefore reasonable to suggest Aëtius frequently used the word ‘acne’ to refer to outbreaks of pimples on the faces of his patients. Analysing the ancient and medieval medical literature, Hebra found no further mention of the term acne. It is not until the sixteenth century that the term ‘acne’ reappears, when the word is used by Parisian doctor Jean de Gorris (known as

¹⁵⁰ Gérard Tilles, ‘Acne Pathogenesis: History of Concepts’, *Dermatology* 229 (2014), 1-46.

¹⁵¹ Grant, ‘The History of Acne’, 647-652. It has been suggested that both Hippocrates and Aristotle were aware of acne, with the ancient Greeks referring to acne as ‘tovoot’ which translates as ‘the first growth of the beard’ ergo its association with puberty. Humyra Tabasum et al, ‘The Historic Panorama of Acne Vulgaris’, *J Pak Assoc Dermatol* 23 (2013), 315-319.

¹⁵² Writing in 1868, Austrian dermatologist, Ferdinand Ritter von Hebra, claimed that acne was not always a cause of medical concern and supposed that Greek doctors must have considered it a benign condition unworthy of their attention: ‘acne does not appear to have been recognised as a disease by the oldest Greek physicians; it would otherwise be strange that an affection so common and so often attacking the face is not once mentioned in the Hippocratic writings’. Ferdinand Ritter von Hebra, *On Diseases of the Skin, Including the Exanthemata, Volume 2* (Translated into English and edited by C. Hilton Fagge and P. H Pye-Smith) (London: The New Sydenham Society, 1866), 278. Writing in 1952, dermatologist Clark W. Finnerud celebrated the key role von Hebra played in laying the foundations for modern-day dermatology. von Hebra established The Vienna School of Dermatology in the late nineteenth century, which soon became renowned for its training and research programme. According to Finnerud, von Hebra ‘was the first to apply modern research methods to dermatology, the first to cut through the maze of antiquated and conflicting theory and practice concerning diseases of the skin, and the first to create and perpetuate a genuine and widespread interest in dermatology’. Clark W. Finnerud, ‘Ferdinand von Hebra and The Vienna School of Dermatology’, *AMA Arch Derm Syphilol* 66 (1952), 223-232.

¹⁵³ Debate still continues as to whether the word’s origin is from the Greek word “akme”, which means high peak. According to Betty Kirkpatrick, acne definitely has an ‘association with a word which is at the other end of the scale from the pits: acme. Acme means the highest point, as opposed to the lowest point that the pits refers to. Both acme and acne have their ultimate origin in the Greek “akme”. This originally meant point, but the Greeks also used it of points or spots on the face. When the Greek word transferred into Latin it was misspelt as acne and the misspelling was retained when the word was adopted into English in the nineteenth century’. Betty Kirkpatrick, *Treacle, Toast and Tweed ... English Word Origins for Language Lovers* (Bath: Crombie Jardine Publishing Limited, 2015), 7.

Gorraeus, 1505-77) to refer to a ‘small hard papule on the face that does not itch or make the patient scratch’.¹⁵⁴

During the Elizabethan period (1558-1603) a pale, untouched complexion was an ‘indication of the elite’, with women frequently using ‘thick, white lead-based paint’ (known as Venetian Ceruse) to achieve the desired skin colouring.¹⁵⁵ Unfortunately, such make up clogged the pores and led to regular outbreaks of acne. To treat pimples, wrinkles and scarring caused by the coarse make up, many women used mercury, which often corroded the surface of the skin and led to marked disfigurement.¹⁵⁶

The next discussion of acne, cited in early modern medical accounts, came from surgeon and physician, Daniel Turner, who was the first person to write a dermatological textbook in English. Turner hinted at his colleagues’ reluctance to treat the condition:

I shall make no apology for spending as much time, or taking the same pains to remove the blemishes incident to the face by some, as I have done to retrieve a former good complexion left by other kinds of illnesses. And therefore if I have given instructions how to abate the fiery red complexions on of the face, and to level those monstrous blotches or pustules, without others breakings out, that so much to disfigure it, and take from its sufferer beauty; I cannot think the talk below the dignity of a physician.¹⁵⁷

Turner’s statement is revealing in two ways. Firstly, it suggests that, the ‘monstrous blotches’ characteristic of acne were as much a concern to sufferers in the early eighteenth century as they are today. Secondly, it reveals a degree of discord amongst early eighteenth-century

¹⁵⁴ Hebra, *On Diseases of the Skin*, 279.

¹⁵⁵ Humyra Tabasum et al, ‘The Historic Panorama of Acne Vulgaris’, 2013.

¹⁵⁶ Despite their dangers, these elaborate beautifying practices were extremely popular amongst Elizabethan women. For more see Stan Place and Bobbi Ray Madry, *The Art and Science of Professional Makeup* (Boston: Milady, 1990), 249-256.

¹⁵⁷ Daniel Turner quote included in Lucius Duncan Bulkley, *Acne: its etiology, pathology and treatment: A Practical Treatise Based on the Study of One Thousand Five Hundred Cases of Sebaceous Disease* (New York: G. P Putnam’s Sons, 1885), 1.

doctors regarding whether the condition should be tackled and how this should be undertaken. One of the factors seeding such debate was the challenge in distinguishing and classifying the condition from other cutaneous ailments. In the ancient period, for example, the term ‘leprosy’ was used to describe conditions such as leprosy, vitiligo and psoriasis.¹⁵⁸ Although textbooks addressing diseases of the skin, such as that by Gerolamo Hieronymus Mercurialis (1530–1606), could assist physicians, identifying and distinguishing cutaneous ailments was still a complex task.¹⁵⁹ By the eighteenth century, there was still need for a logical and straightforward classification system.¹⁶⁰ This task, according to Stephen Connor, was taken up by Viennese surgeon, Joseph Plenck in 1776 who classified some 114 cutaneous ailments ‘on the basis of their characteristic lesions’.¹⁶¹ Arranging these diseases into fourteen classes, Plenck used terms such as ‘macule, papule, vesicle and crusts as headings under which all other diseases were grouped’.¹⁶²

Plenck’s method of classification required refinement – an undertaking that was embraced by Robert Willan at the beginning of the nineteenth century. Following botanist Carl Linnaeus’s taxonomical methodology, Willan refined Plenck’s system and reduced the number of skin disease categories to eight, namely: Papulae, Vesiculae, Squamae, Pustulae, Exanthemata, Tubercula, Bullae, and Maculae.¹⁶³ Willan was well-known for his painstaking classification of

¹⁵⁸ Amiya Kumar Mukhopadhyay, ‘On the History of Classification in Dermatology’, *Indian J Dermatol* 61 (2016), 588-592.

¹⁵⁹ Ibid.

¹⁶⁰ According to dermatologist Gérard Tilles, French physician and botanist, Boissier de Sauvages (1706–1767, Montpellier) ‘brought a minor evolution in the nomenclature of the disease he named ‘psudracia achne’ characterized by small, red and hard tubercles that cause neither pain nor pruritus, altering the appearance of the face, occurring in childhood sometimes until adolescence’. Tilles, ‘Acne Pathogenesis’, 1-46.

¹⁶¹ Connor, *The Book of Skin*, 24.

¹⁶² Ibid.

¹⁶³ According to the Royal College of Physicians, ‘skin diseases were not presented as a dedicated medical area until Girolamo Mercuriali’s *De morbis cutaneis* (The diseases of the skin), originally published 1572. Englishman Daniel Turner’s *De morbis cutaneis*, published 1714, was the first complete book in English dedicated to the subject of skin diseases.’ It has been argued that Daniel Turner’s famous work helped lay the foundations for the medical speciality of dermatology. It has been suggested that Robert Willan ‘possibly made the greatest historical contribution through his rigorous classification of skin diseases’. Recognising Willan’s extraordinary contribution to the field of dermatology, the British Association of Dermatologists opted to name

various skin diseases and was the ‘first to recognize the importance of illustrations in the description of skin disorders and to create the first atlas of skin diseases containing colour pictures’.¹⁶⁴ According to Shruthi Rathish and Sebastian Criton, Willan published his ‘On Cutaneous Diseases, Vol. 1,’ in 1808 which provided a detailed description on the first four orders: papulae, squamae, exanthemata, and bullae.¹⁶⁵ In her assessments of Willan’s contribution to dermatology, medical curator, Mienieke te Hennepe, has argued that:

Willan advocated the cultivation of (visual) inspection in diagnosis. To him, the patient’s narrative was of less concern than accurate observation. In this respect his approach (and that of others after him) was clearly related to the new pathological anatomical view on illness exposing the locus of illness and the pathological lesion. The organ-based approach formed an ordering of diseases by bodily location, instead of classifying them under a vast nosological arrangement.¹⁶⁶

their library after him, located in the Royal College of Physicians’ Willan Room. Royal College of Physicians, “Robert Willan and the history of dermatology”, <https://www.rcplondon.ac.uk/news/robert-willan-and-history-dermatology>, Accessed 10 October 2016. For the works of Carl Linnaeus please see, Carl Linnaeus, *A System of Vegetables, According to Their Classes, Orders, Genera, Species, Vol. 1 of 2: With Their Characters and Differences* (London: John Jackson Publishers, 1783).

¹⁶⁴ A. Grzybowski and L. C. Parish, ‘Robert Willan: pioneer in morphology’, *Clin Dermatol* 29 (2011), 125-9

¹⁶⁵ Shruthi Rathish and Sebastian Criton, “Robert Willan – A true pioneer”, *Journal of Skin and Sexually Transmitted Diseases*, 1, (2019), 30-31.

¹⁶⁶ Mienieke te Hennepe, *Depicting skin: visual culture in nineteenth-century medicine* (Maastricht: Maastricht University Press, 2007), 34 <https://cris.maastrichtuniversity.nl/ws/files/1006917/guid-b14d2258-9022-4570-8702-dff661e936c0-ASSET1.0>, Accessed 2 August 2019. Soon French physicians embraced the Willanist system of ‘classifying’ and ‘diagnosing’ skin diseases. Until 1816, French physicians followed dermatologist Jean-Louis Alibert’s methods of conceptualising skin diseases. Unlike the Willanist system, Alibert’s methods of classification included ‘their signs, symptoms, cause, course and duration’. te Hennepe, *Depicting Skin* (2007). Believing that physicians treating skin diseases could learn greatly from ‘clinical observation’, Alibert also considered illustrations extremely important tools for teaching and learning. Celebrated in France for his great medical mind, he became ‘personal physician to King Louis XVIII’ in 1815. Crissey, Parish and Holubar, *Historical Atlas*, 12. Obligated to stay and travel with the King ‘at all times’, Alibert handed his ‘clinics at the Saint Louis Hospital over to his pupil Laurent Biett’. te Hennepe, *Depicting Skin*, 37. Whilst visiting various hospitals in London, Biett met Bateman who introduced him to the Willanist method of arranging skin diseases. Impressed, Biett began using the method and informed his colleagues back in France about the alternative way of diagnosing and classifying skin diseases. Soon, according to te Hennepe, many Parisian skin specialists ‘adopted (and adapted) the Willan-Bateman approach’. Ibid, 38. Angered and betrayed that Biett had ‘adopted foreign Willanist ideals’, Alibert unveiled a new classification system for arranging and diagnosing skin diseases in 1829. In Alibert’s “Arbre des dermatoses” (“tree of dermatoses”), the ‘bark of the tree trunk represented epidermis and dermis whereas diseases were called lichens and mycoses’. Mukhopadhyay, ‘On the History of Classification in Dermatology’, 591. Whilst the ‘fanciful idea’ was intended to represent the ‘relationship between skin diseases’, it was considered complex and confusing with many French physicians preferring the simpler Willanist method of classification. Despite Alibert being mocked and ridiculed for his classification system, his striking illustrations were unparalleled. ‘A Biographical History of British Dermatology’, <http://www.bad.org.uk/about-us/history/biographical/earliest-days>, Accessed 7 August 2019.

Willan received great praise for the first volume of ‘On Cutaneous Diseases’ and began working on a second volume which sought to tackle the remaining four orders. Sadly, however, Willan did not get to finish the classification he was working on as he succumbed to tuberculosis in 1812. Shortly after Willan’s death, his good friend and apprentice, Thomas Bateman, continued his work, with the resulting book becoming probably the ‘most influential dermatology text of the nineteenth century’.¹⁶⁷

With respect to acne, Bateman argued that it was characterised ‘by an eruption of distinct, hard, inflamed, tubercles, which are sometimes permanent for a considerable length of time, and sometimes suppurate very slowly and partially’.¹⁶⁸ These inflamed tubercles usually appeared on the face (especially the forehead), temples, chin, neck, shoulders and breasts. Bateman claimed that the condition occurred ‘almost exclusively in persons of sanguine temperament’ and normally appeared between the ages of twelve and thirty-five.¹⁶⁹ Though he suggested that acne was equally common amongst both males and females, Bateman asserted that young men usually suffered from more severe forms of the condition.

¹⁶⁷ N. J. Levell, ‘Thomas Bateman MD FLS 1778-1821’, *Br J Dermatol* 143 (2000), 9-15. According to Levell, Bateman’s book was the ‘first classification of dermatology that precisely defined the terms used and fitted individual diseases into a single class, rather than considering different stages of the same disease as maladies that belonged in different classes. This was the first attempt to link treatment to the disease process rather than to the clinical appearances and thus represents the origin of modern scientific clinical dermatology’.

¹⁶⁸ Thomas Bateman and Robert Willan, *A Practical Synopsis of Cutaneous Diseases: According to the Arrangement of Dr. Willan, Exhibiting a Concise View of the Diagnostic Symptoms and the Method of Treatment* (London: Longman, Hurst, Rees, Orme & Brown, 1813), 276.

¹⁶⁹ Greco-Roman physician, Claudius Galen, built on the Hippocratic theory of humours to ‘explain differences in human temperament’. If, for example, one of the four humours (blood, phlegm, yellow bile and black bile) dominated the others the individual would experience personality changes. Therefore, according to Galen, ‘if blood became the predominant humor in a person’s constitution, he or she would be sanguine – that is, content or cheerful’. Albert Ellis, Mike Abrams and Lidia Abrams, *Personality Theories: Critical Perspectives* (London: SAGE Publications, 2008), 26. According to Douglas Altchek and Donald Rudikoff, ‘the Hippocratic humoralist doctrine held that certain skin diseases reflected internal conditions’. As Hippocrates maintained that the body contained four humors (see above), he believed manifestations on the skin were a result of ‘the elimination of noxious humors and were thus beneficial or else reflected a personal diathesis or predisposition to certain maladies’. Douglas Altchek and Donald Rudikoff, ‘The History of Eczema and Atopic Dermatitis’ in Donald Rudikoff, Steven Cohen and Noah Scheinfeld (eds), *Atopic Dermatitis and Eczematous Disorders* (Florida: CRC Press, 2014), 16.

Classifying the condition, Bateman separated the different varieties of the eruption into four subtypes of acne which he named acne simplex, punctata (Figure 4), indurata (Figure 5), and rosacea (Figure 6). Acne simplex, the most benign form of the condition, was usually characterised by small spots which frequently appeared singly and were usually not accompanied with much inflammation. Normally lasting for eight to ten days, acne simplex was marked by tubercles which gradually rose, became moderately inflamed, then subsided. The condition did not normally ‘proceed to suppuration’ (pus forming) and sufferers usually ‘enjoyed good health’ and could not attribute the outbreak to any ‘obvious exciting cause’.¹⁷⁰ Bateman claimed that ‘except in females, this variety of the eruption seldom called for the attention of medical men’ – the dermatologist recalling the writings of Celsus in acknowledging that acne simplex frequently troubled ‘the Roman ladies’:

Celsus observes that, in his time, the Roman ladies were so solicitous to maintain their beauty, that he deemed it necessary to mention the remedies for this affection, which otherwise he considered as too trifling for the notice of the physician.¹⁷¹

Acne punctata consisted of a ‘number of black points’ (blackheads) surrounded by a raised border of cuticle and, when pressure was applied to them, mucus or sebaceous matter of ‘wormlike appendage’ exited. Bateman recommended that physicians used their fingers to knead and extract the pus. While Bateman did not consider simplex and punctata forms of acne to be serious ailments, acne indurata was often marked by both its permanence and potential to disfigure sufferers. Extremely difficult to treat, Bateman painted a desperate picture of indurata:

In its most severe form, this eruption entirely covers the face, breast, shoulders, and top of the back. The tubercles, even when they do not suppurate, but especially when they continue highly red, are always sore and tender to touch; so that washing, shaving, the friction of the clothes are somewhat painful.¹⁷²

¹⁷⁰ Ibid, 278.

¹⁷¹ Ibid, 279.

¹⁷² Ibid.

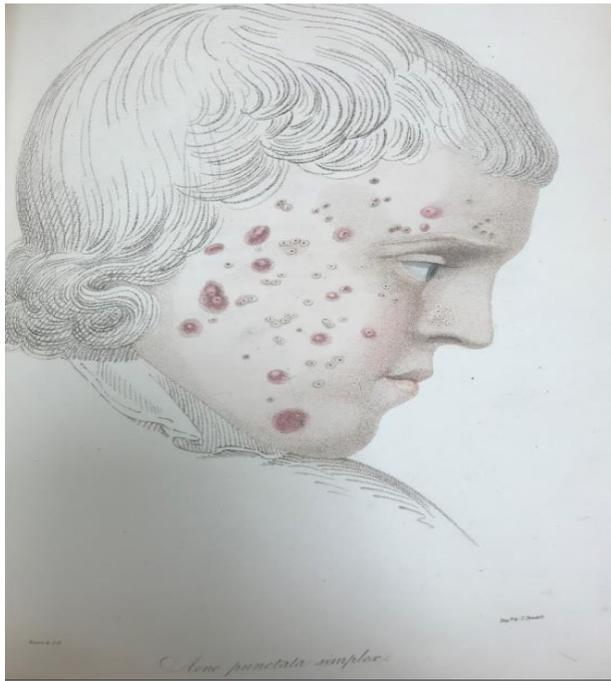


Figure 4 'Acne simplex and acne punctate: Plate LXII'.¹⁷³

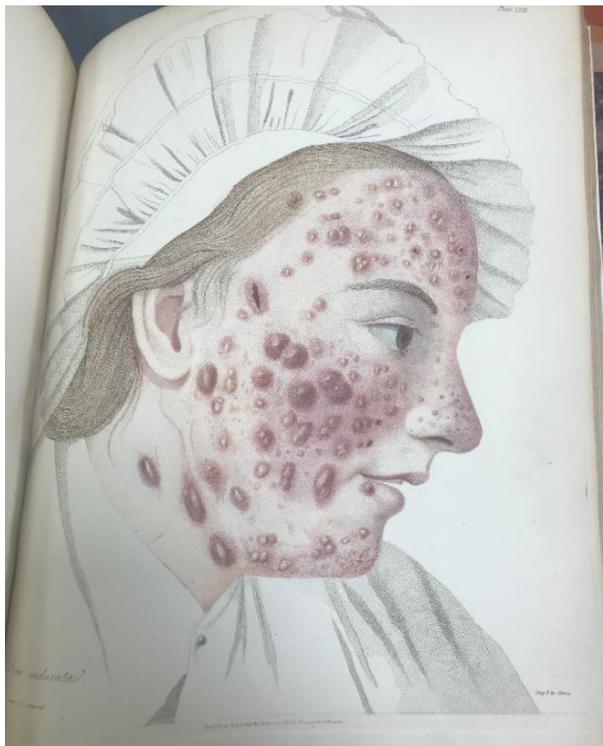


Figure 5 'Acne indurata: Plate LXIII'.¹⁷⁴

¹⁷³ Thomas Bateman, *Delineations of Cutaneous Diseases: Exhibiting The Characteristic Appearances Of The Principal Genera and Species Comprised In The Classification Of The Late Dr Willan* (Longman: London, 1817), Plate LX111. Royal College of Physicians, Willan Room, Shelf Reference W/5-d-10Ib.

¹⁷⁴ *Ibid.*

Along with delineating the subtle differences between the subtypes of acne using pictures, Bateman also described the features that differentiated acne rosacea (Figure 8). Rosacea was usually ‘accompanied with general redness, which commences on and spreads from the end of the nose, on both sides, to the cheeks’.¹⁷⁵ While Bateman claimed that punctata, indurata and simplex forms of acne were chiefly ‘local diseases’ which responded well to external applications of therapies such as ‘lotions and liniments containing vinegar and honey’, he suggested that rosacea differed in that the root cause was usually a result of an internal disturbance.¹⁷⁶

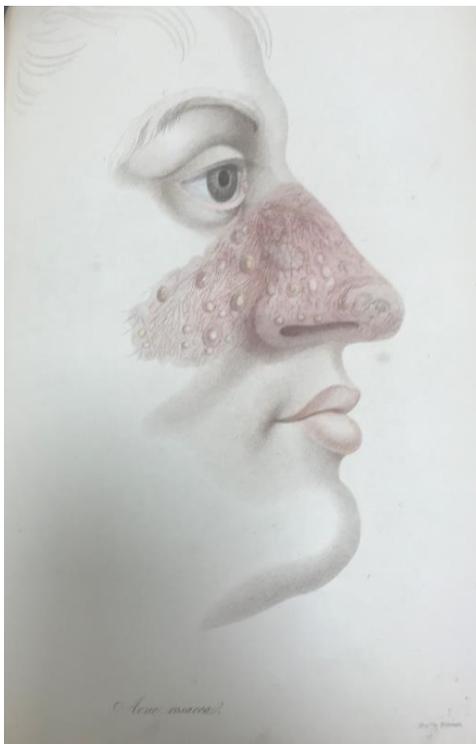


Figure 6 ‘Acne Rosacea: Plate LXIV’.¹⁷⁷

¹⁷⁵ Ibid.

¹⁷⁶ Irish dermatologist John Moore Neligan charted these differing stages in *Atlas of Cutaneous Diseases*. John Moore Neligan, *Atlas of Cutaneous Diseases* (Dublin: Fannin and Company, 1855), 467. Royal College of Physicians, 57431 Willan Room W/6-d-2.

¹⁷⁷ Bateman, *Delineations of Cutaneous Diseases*.

Following Bateman's publication, microscope technology led to the epidermis being redefined 'from an open permeable layer into a protective boundary layer for the whole human body'.¹⁷⁸ Whereas in previous centuries the skin had been considered a porous covering of the human body, microscopical analysis of the skin and improved understanding of the physiology and functions of the human epidermis showed skin to be a vital, functioning, protective organ, complete with its own inner structures.¹⁷⁹ As a result of the increasing recognition of the importance of the skin health, 'the scientific study of the skin was first formalised in Britain during the nineteenth century', with dermatology becoming a specialised field of medicine.¹⁸⁰ Along with the developments in microscopy, Willan's decision to include coloured illustrations within his dermatological text introduced a new 'visual language' to the field in the early nineteenth century.¹⁸¹ Willan believed that coloured illustrations were a more sophisticated teaching aid than mere words on a page. Illustrations captured the 'number, size, form and colour of skin diseases' and allowed physicians and students to become quickly acquainted with the differences inherent in each cutaneous ailment.¹⁸² Inspired by Willan and Bateman's classification system, French dermatologist Pierre François Olive Rayer employed coloured illustrations to break down the different stages of each skin disease in 1826 – a method that English skin specialist, Anthony Todd Thomson, used to highlight the various stages and subtypes of acne in 1829. Using illustrations encouraged physicians and students to pay closer attention to the nuances which distinguished the less severe forms of acne simplex and punctate (described in the accompanying text as the 'simple pimple' and 'maggot pimple'), from that of the more severe indurata and rosacea subtypes.¹⁸³

¹⁷⁸ Mineke te Hennepe, *Depicting Skin: Visual Culture in Nineteenth-Century Medicine* (Wageningen: Ponsen and Looijen, 2007), 165.

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Ibid, 21.

¹⁸² Ibid, 28.

¹⁸³ Anthony Todd Thomson, *Atlas of Delineations of Cutaneous Eruptions: Illustrative of the Descriptions in the Practical Synopsis of Cutaneous Diseases of Thomas Bateman in this Plate* (London: A&R Spottiswoode, 1829), 93. The skin condition sycosis is also included. 'Sycosis of the beard' is a cutaneous ailment

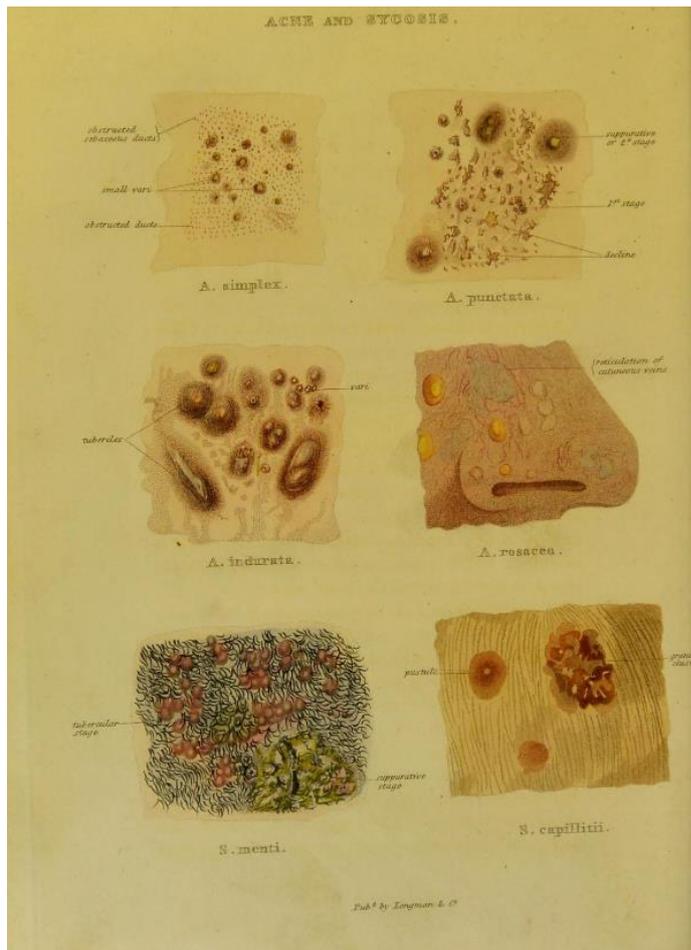


Figure 7 ‘Anthony Todd Thomson - the various stages and subtypes of acne’.¹⁸⁴

While early dermatological atlases relied on the skill of artists to interpret and draw skin diseases and their accompanying lesions, the introduction of the daguerreotype method of photography in 1839 revolutionised the way skin diseases were visually recorded. As dermatologists Emily Milam and Sarika Ramachandran have pointed out, the ‘daguerreotype was the first image process with permanence and was heralded for its fidelity, lifelikeness, and objectivity’.¹⁸⁵ In 1865, British physician Alexander Balmanno Squire was the first to publish a dermatological atlas that included twelve albumen prints of real patients suffering from a

characterised by ‘an eruption of inflamed, hard tubercles, which arise in irregular, circular clusters on the chin and scalp’.

¹⁸⁴ Ibid, 92.

¹⁸⁵ Emily Milam and Sarika Ramachandran, ‘19th Century Dermatologic Atlases in the Early Age of Photography’, *JAMA Dermatol* 151 (2015), 969.

range of skin diseases.¹⁸⁶ In the forthcoming years, Squire's publication was followed by further dermatological atlases featuring photographs collated by French and American dermatologists, such as Alfred Hardy and Howard F Damon. In 1879, Professor of Dermatology at the New York Medical College for Women, George Henry Fox, published his own atlas using a more economical and efficient method known as the collotype process. This process enabled dermatologists to publish much larger images and, more importantly, helped them keep publishing costs low; thus, greater quantities of the atlases could be disseminated amongst physicians and students. In the second edition of his bestselling atlas, Fox explained the value of 'improved photographic processes' for the science of dermatology:

The study of Skin Diseases without cases or coloured plates is like the study of osteology without bones, or the study of geography without maps. However comprehensive a practical text-book may be, its verbal descriptions cannot compare in value with a sight of the things described, or, what is next best, its faithful representation.¹⁸⁷

In his discussion on acne, Fox featured the picture of a young man (Figure 8) who is described as suffering from 'well-marked pustular acne with some induration of the lesions'. Fox added that the patient suffered from 'poor circulation and worse digestion', implying that his acne may be a result of these problems.¹⁸⁸

¹⁸⁶ Alexander Balmanno Squire, *Photographs (coloured from Life) of the Diseases of the Skin* (London: Churchill, 1865).

¹⁸⁷ George Henry Fox, *Photographic illustrations of skin diseases, nearly one hundred photographic cases from life, colored by hand. 2nd edition* (New York: E. B. Treat, 1889), 1.

¹⁸⁸ *Ibid*, 100.

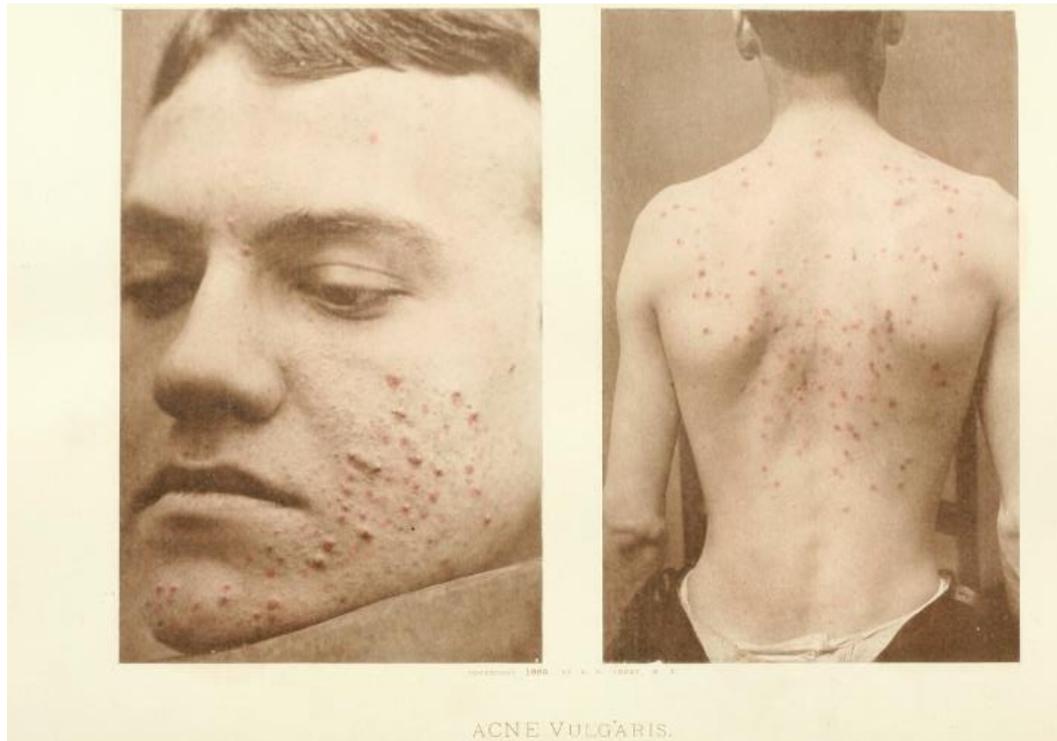


Figure 8 ‘George Henry Fox – ‘well-marked pustular acne with some induration of the lesions’.¹⁸⁹

Along with their key role introducing the new visual method for recording skin diseases, Willan and Bateman’s efforts influenced a new generation of successors who were well versed in the workings of the skin. In 1802, Willan was responsible for opening the Fever Institution, located on Gray’s Inn Road, London. Described as a ‘House of Recovery’ for patients suffering from forms of contagious fever and smallpox, the small hospital only had fifteen beds.¹⁹⁰ Faced with diseases such as typhus, smallpox and scarlet fever, Bateman and Willan used their classification system to accurately identify and classify the range of conditions affecting the patients who had been admitted to the hospital.¹⁹¹ As well as establishing the Fever Hospital, Willan was also appointed as ‘physician to the Public Dispensary’ in Carey Street, London.

¹⁸⁹ Ibid.

¹⁹⁰ By One of The Governors, ‘The Story of the London Fever Hospital’, *The Hospital* (1888), 67.

¹⁹¹ H. J. M. Malhomme de la Roche and Edmonds K. Agnew, ‘Two Hundred Years of Dermatology Services in London: an Overview’, *Br J Dermatol* 153 (2005), 53.

Under Willan's leadership the Dispensary, which provided free treatment to the sick poor, quickly gained a reputation for its speciality in diagnosing and treating a variety of skin diseases – a feature that helped it attract graduates of medicine looking to become specialised in the practice of dermatology.¹⁹² For instance, pupils such as Anthony Todd Thomson, who attended the Dispensary, exploited the skills they had accumulated and helped found other dispensaries such as the Chelsea, Brompton and Belgravia Dispensary which itself became renowned for its specialism in treating diseases of the skin. With Bateman as a consultant and Thomson on the staff as a physician, in 1819 the Royal London and Westminster Infirmary for the Treatment of Cutaneous Diseases, based in Marlborough Street, London, became the first hospital formed to solely treat diseases of the skin.¹⁹³

According to dermatologist Arthur Rook, 'from these beginnings pupils of Willan and Bateman introduced dermatology, as a special interest for general physicians, to some of the teaching hospitals'.¹⁹⁴ For example, Thomas Addison, a student of Bateman's, became both physician to the Public Dispensary and Guy's Hospital. Known to have influenced a host of colleagues and students interested in diseases of the skin during his time at Guy's, his successors subsequently introduced dermatological teaching to the hospital's curriculum. In a further sign of dermatology's growth, between 1850 and 1900, numerous clinics dedicated to the treatment of diseases of the skin were formed throughout Britain.¹⁹⁵ Moreover, as London became the epicentre of investigations and debates into diseases of the skin throughout Britain, hospitals such as the Hospital for Diseases of the Skin (Blackfriars, 1841), the Western Dispensary for Diseases of the Skin (Fitzroy Square, 1851), and St John's Hospital for Diseases of the Skin (1863) were formed to treat and diagnosis the wide array of skin conditions which affected the

¹⁹² Arthur Rook, 'Dermatology in Britain in the Late Nineteenth Century', *Br J Dermatol* 100 (1979), 3-11.

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ Ibid.

British population.¹⁹⁶ For example, the Hospital for Diseases of the Skin in Blackfriars, formed by James Startin, attracted over ten thousand new patients annually by 1860 – a figure that illustrated the growing requirement for more specialist hospitals devoted solely to skin diseases.¹⁹⁷

Further evidence of dermatology's growing influence as a speciality came in the form of William Tibury Fox's appointment as 'the UK's first full time Teaching Hospital Dermatologist at Charing Cross Hospital in 1867'.¹⁹⁸ Furthermore, in 1882, Britain's first dermatological society, the Dermatological Society of London, was founded by dermatologists James Herbert Stowers (Figure 9) and Albert Sangster.¹⁹⁹

¹⁹⁶ Ibid.

¹⁹⁷ Ibid. Despite the aforementioned physicians understanding the need for hospitals devoted exclusively to skin diseases, like other medical specialities such as ophthalmology and urology, dermatology similarly encountered its own difficulties in trying to establish itself due to 'the bitter resistance of the British Medical Establishment to specialisation'. Crissey and Parish, *Dermatology and Syphilology*, 136. As health journalist Jeremy Laurance has pointed out, 'there was resentment from generalists about the growth of specialist hospitals in London which were felt to be unnecessarily duplicating the work of specialist clinics in general hospitals for financial gain.' Jeremy Laurance *Skin: A History - 150 Years of St John's Institute of Dermatology* (London: Guy's and St Thomas' NHS Foundation Trust, 2015), 10.

¹⁹⁸ "'History" of the British Association of Dermatologists', <http://www.bad.org.uk/about-us/history>, Accessed 11 September 2018.

¹⁹⁹ Anon, 'Obituary of James Herbert Stowers', *Br J Dermatol* 43 (1931), 1.

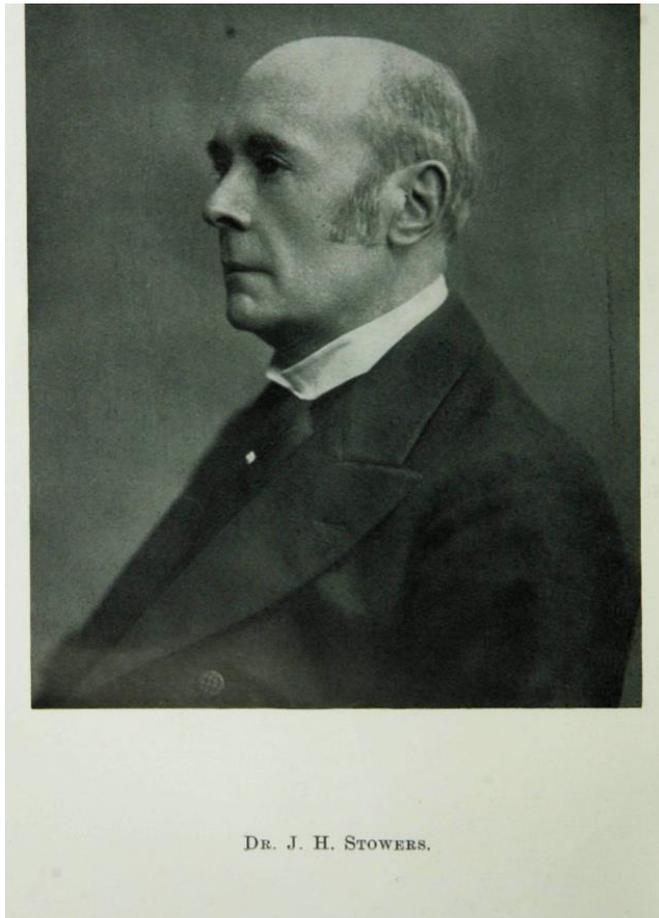


Figure 9 James Herbert Stowers.²⁰⁰

According to Arthur Rook, the intentions of the Society were ‘the exhibition and demonstration of patients, drawings, models and specimens (microscopical and otherwise) illustrating diseases of the skin, and the discussion of questions in Dermatology, to be previously selected by the Society’.²⁰¹ The formation of the London Society was followed by the founding of the Dermatological Society of Great Britain and Ireland in 1890.²⁰² Although Erasmus Wilson had been successful in creating his own journal devoted to diseases of the skin in 1867, entitled the *Journal of Cutaneous Medicine*, the venture only lasted four years before falling. According to Crissey and Parish, the failure of the journal was due to Wilson being ‘too well supplied with

²⁰⁰ Ibid.

²⁰¹ Rook, ‘Dermatology in Britain in the Late Nineteenth Century’, 3-11.

²⁰² “‘History’ of the British Association of Dermatologists’.

ego to edit properly for long, along with his constant interference and distracting personal commentary'.²⁰³ In 1888, the founding of the *British Journal of Dermatology* by dermatologists Malcolm Morris and Henry Brooke marked another crucial episode in the history of the speciality; the journal enabled those interested in skin diseases to share their knowledge with their dermatological colleagues.²⁰⁴

Interest in dermatology led to speculations about the causes of acne. In 1849, English physician Thomas Henry Burgess defined acne as being the result of 'chronic inflammation of the sebaceous glands, in which the hair follicles are more or less involved'.²⁰⁵ According to Burgess, the sebaceous matter became so blocked that it could not be adequately discharged, thus leading to the obstruction of the hair follicle being. Once the follicle became clogged, inflammation occurred, destroying the follicle and resulting in the formation of a pimple filled with matter.²⁰⁶ Regarding acne's aetiology, early dermatologists focussed on the lifestyles, menstruation cycles and sexual practices of their patients. In 1855, Irish dermatologist John Moore Neligan suggested that acne frequently 'attacked young persons addicted to certain secret vices, subject to abdominal irritations, or given to the use of spirituous liquors', although he did admit that theories relating to the cause of acne were 'for the most part extremely obscure' and lacked foundation.²⁰⁷ As with Neligan, Thomas Hillier, the Physician to the Skin

²⁰³ Crissey and Parish, *Dermatology and Syphilology*, 136.

²⁰⁴ "'History" of the British Association of Dermatologists'.

²⁰⁵ Thomas Henry Burgess, 'Contributions to The Pathology of The Skin' in *The London Medical Gazette or Journal of Practical Medicine* (London: Longman, Brown, Green and Longmans, 1849), 314.

²⁰⁶ Burgess' view regarding the involvement of the sebaceous glands in the formation of the acne pimple and skin diseases, in general, held considerable sway with not only the medical community but also in the British press. Discussing what qualified Dr Burgess to publish his book, *Diseases of the Skin of the Exposed Surfaces*, the *British and Foreign Medical Review* claimed he deserved the respect of everyone for long making the 'subject of skin diseases his patient and attentive study, not only in England, but in France and Italy'. Having struck up a close friendship with French dermatologist, Pierre Louis Alphée Cazenave, he was afforded the opportunity of observing patients with skin complaints in the Hospital of St. Louis in Paris – famously noted for its expertise in dermatology. Thomas Henry Burgess, 'Opinions of the Press on Authors' in Thomas Henry Burgess, *Diseases of the Human Hair, from the French of m. Cazenave, with A Description of an Apparatus for Fumigating the Scalp* (London: Henry Henshaw Publishers, 1851), 111.

²⁰⁷ Neligan, *Atlas of Cutaneous Diseases*, 467.

Department of the University College Hospital, London, claimed that most theories of acne lacked evidence. Theories were often ‘handed down from writer to writer’ without much consideration of their veracity. For his part, Hillier believed acne was a result of a gastrointestinal disturbance or, in the case of women, a problem with the menstrual cycle, although he did acknowledge that such beliefs ‘had been handed down from one writer to another, without sufficient enquiry into the evidence to support it’.²⁰⁸ Although Hillier similarly struggled to provide evidence to substantiate his claim, he nevertheless believed ‘excess alcohol and coffee’ ‘had an effect in increasing acne’.²⁰⁹

In the case of men, one of the more controversial theories concerned sexual habits. In 1884, Dr Tom Robinson, the highly respected skin specialist and physician to St John’s Hospital for Skin Diseases in London, noted that some of his colleagues were adamant that acne was a result of both ‘excessive sexual indulgence’ and masturbation. Robinson was quick, however, to point out that very few medical professionals could provide proof to support such claims.²¹⁰ The tendency for medical professionals in the nineteenth century to link acne with sufferers’ sexual practices was in step with Victorian views of sex outside of marriage and masturbation.²¹¹ In 1866, for example, St Thomas’s and Guy’s Hospital-trained Dr Thomas Hunt, described a number of factors which he felt contributed to the onset of acne, as well as espousing the links between marriage and good skin health:

²⁰⁸ Thomas Hillier, *Hand-book of Skin Diseases for Students and Practitioners* (Philadelphia: Blanchard and Lea, 1865), 183.

²⁰⁹ Ibid.

²¹⁰ Tom Robinson, *From the Archives: Lectures On Acne, Acne Rosacea, Lichen and Prurigo* (London: Henry Kimpton Publishers, 1884), 25.

²¹¹ Historian Ornella Moscucci argues that ‘from the 1800 onwards, the evils of masturbation were widely discussed in medical and moralistic texts; although attitudes to the practice were not monolithic, much was made of its physically and mentally deleterious effects. Polluting and debilitating for the individuals, it had a destabilising effect on society, as it prevented healthy sexual desire from fulfilling socially desirable ends - marriage and procreation, which were the foundation of the social order’. Ornella Moscucci, ‘Clitoridectomy, Circumcision and the Politics of Sexual Pleasure in mid-Victorian Britain’, in Andrew H. Miller and James Eli Adams (eds), *Sexualities in Victorian Britain* (Bloomington: Indiana University Press, 1996), 63.

Acne never occurs before puberty, seldom in married men, and still more seldom in married women while they are bearing children. Acne is generally met with in very healthy subjects, commencing commonly in the teens, and sometimes disappearing spontaneously about the age of twenty-one, sometimes on the marriage of the patient (male or female), and sometimes persisting for many years (in the unmarried).²¹²

In 1869, ‘the great multi-specialist of medicine’ Sir Johnathan Hutchinson claimed that the common form of acne affecting young people was normally ‘much alleviated when adult age is fully attained’ and claimed that ‘it is a matter of popular experience that marriage is often its cure’, as a result of the sex that accompanies marriage. Nevertheless, Hutchinson also stated that occasionally ‘severe acne may be seen in married women who are bearing families’, a finding which again served to complicate dermatologists’ understandings of the condition.²¹³ While many skin specialists noted the tendency for acne to clear up as people aged, Hutchinson theorised that the ‘spontaneous subsidence’ of acne in older sufferers was a result of the sebaceous glands being destroyed by the ageing process.²¹⁴ In addition to theories about sex and ageing, acne was also associated with broader societal concerns about hygiene, class, race and female beauty in the late nineteenth century.

²¹² Thomas Hunt, ‘The Pathology of Acne’, *BMJ* 2 (1866), 562.

²¹³ Moreover, evidence also suggests that some physicians and dermatologists had difficulty distinguishing acne from other diseases which affected the skin. In the May 19th edition of the 1908 Iowa based Ottumwa tri-weekly courier, for example, it is revealed that a Dr A. C. Moerke of Burlington (himself a member of the state board of health) visited the town of Cantrill to confirm the diagnosis of smallpox in a patient. Following an examination of the patient, named Lester Roberts, it was stated that the ‘Cantrill people are pleased to know that it is not smallpox as first reported, but acne’ – a much more favourable outcome in this case. Anon, ‘Has Acne, Not Smallpox’, *Ottumwa tri-weekly courier* (May 1908), 1. During the 1901-1902 Smallpox epidemic in London, Medical Officer Charles Fraser from Dagenham Hospital claimed to have seen four cases of acne which had been mistaken for Smallpox. Charles Fraser, ‘A Note on some Cases Mistaken for Small-Pox During the Recent Epidemic’, *BMJ* 2 (1902), 1898–1899.

²¹⁴ Johnathan Hutchinson, *A Descriptive Catalogue of the New Sydenham Society's Atlas of Portraits of Diseases of the Skin* (London: The New Sydenham Society, 1869), 77. Writing in 1952, medical doctors Jack E. McCleary and Eugene M Farber described Sir Johnathan Hutchinson as ‘the only great generalised specialist which the medical profession has produced’. Surgeons, physicians, dermatologists and neurologists (amongst others) frequently drew on his large repertoire of work. Jack E. McCleary and Eugene M. Farber, ‘Dermatological Writings of Sir Johnathan Hutchinson’, *AMA Arch Derm Syphilol* 65 (1952), 130-136.

Cleanliness, Class and the Social Significance of a Blemish-Free Skin

Today, the belief that acne is caused by poor personal hygiene is a common misconception which has proven difficult to dispel. According to the American Academy of Dermatology (AAD), scrubbing one's face too much can irritate acne and lead to a worsening of the condition.²¹⁵ So, where did this notion come from? Medical curator Mienieke te Hennepe claims that in nineteenth-century Britain 'the concept of a healthy skin penetrated the lives of many people with the skin frequently viewed as a symbolic surface: a visual moral ideal'. In both the American and British context, the medical profession's increasing interest in promoting good hygiene practices for alleviating skin diseases like acne was linked to the belief in the importance of good sanitation and personal hygiene in achieving a healthy constitution.²¹⁶

According to historian, Tom Crook, in Victorian Britain, 'personal cleanliness went hand in hand with sober, industrious habits and a conscientious sense of domestic and social responsibility'.²¹⁷ Good personal hygiene was associated with those of the middle and upper classes who escaped the dirty and deprived surroundings of American and British cities. For the poor city dwellers and immigrants who lived in the overcrowded and often disease-ridden tenements, focussing on the cleanliness of their faces often helped people 'fight stereotypes of poor hygiene'.²¹⁸ Moreover, education manuals of the period often reminded people that 'cleanliness costs nothing' and that to be dirty was to be 'disgraceful', with readers being informed that 'the dirty body was not very likely to go along with a pure mind'.²¹⁹ Within these

²¹⁵ Anon, 'Acne: Who Gets It and Cause', <https://www.aad.org/public/diseases/acne-and-rosacea/acne#symptoms>, Accessed 13 December 2016.

²¹⁶ Mienieke te Hennepe, 'Depicting Skin: Microscopy and the Visual Articulation of Skin Interior 1820-1850' in Renée van de Vall and Robert Zwijnenberg (eds), *The Body Within: Art, Medicine and Visualization* (London: Brill Academic Publishers, 2009), 55.

²¹⁷ Tom Crook, 'Schools for the moral training of the people: Public Baths, Liberalism and the Promotion of Cleanliness in Victorian Britain', *Eur Rev Hist* 13 (2006), 21-47.

²¹⁸ Karen Sternheimer, *Celebrity Culture and the American Dream: Stardom and Social Mobility* (London: Routledge, 2011), 48.

²¹⁹ Anon, *Village school reading-book* (London: Hope & Co Publishers, 1852), 16.

manuals, physicians were prompted to encourage their patients to keep their skin ‘perfectly clean, and well clothed’.²²⁰ In other manuals, people were informed about the health-giving qualities of proper bathing. According to Joseph Chrisman Hutchison, President of the New York Pathological Society, bathing kept the skin ‘ruddy and soft, and shuts many gates against disease’.²²¹ Celebrated dermatologist Sir Erasmus Wilson also outlined the health benefits of bathing, describing how cold baths reinvigorated both the skin and the central nervous system. According to Wilson, bathing not only helped overcome sickness and disease, but more importantly, enabled those who followed his advice to preserve their overall physical and mental health. Wilson believed that ‘hypochondriacs or nervous persons’ could be cured by sea bathing and by relaxing amongst the reviving scenes of nature.²²²

While good hygiene was not a new concept, ‘the discovery of new anatomical parts inside the skin proved a central component in popular sanitary reform from 1840’.²²³ In 1835, French microscopists Gilbert Breschet and Augustin de Vazeme detailed the anatomy of the sweat ducts – a finding which led Wilson to fervently promote the health benefits of cleanliness for all.²²⁴

For sanitarian reformers such as Wilson, the filth that clogged the pores of the skin signified the potential for social disorder and immorality, a constant reminder of the threat dirt posed to public health.²²⁵ Later in the century, likening clear skin complexions to notions of good personal hygiene also fitted with the new scientific germ theory of disease. A blemished and

²²⁰ Edmund Alexander Parkes, *Practical Hygiene: Intended Especially for Medical Officers of the Army and for Civil Medical Officers of Health* (London: J. & A. Churchill, 1873), 438.

²²¹ Joseph Chrisman Hutchison, *Physiology and Hygiene for Educational Institutions and General Readers* (New York: Clark & Maynard, 1880), 47.

²²² Erasmus Wilson, *Healthy Skin: A Proper Treatise on The Skin and Hair, Their Preservation and Management* (Philadelphia: Blanchard & Lea, 1854), 179.

²²³ te Hennepe, ‘To preserve the skin in health’, 397-421.

²²⁴ Ibid.

²²⁵ Ibid.

greasy complexion also implied that one resided in dirty, unkempt accommodation where germs thrived.²²⁶

Louis Pasteur's and Robert Koch's work on the link between microorganisms and the onset of disease encouraged dermatologists to consider the relationship between microorganisms and cutaneous ailments. When discussing skin diseases such as erysipelas and Lupus in 1871, for example, British dermatologist, Donald Kennedy, acknowledged that 'the germ-theory was gaining ground amongst the many eminent men who advocated it'.²²⁷ In 1884, German dermatologist Paul Gerson Unna was the first to suggest the bacterial cause of acne when he found an organism (which was later to become known as acne bacillus) within histological sections of the acne comedone.²²⁸ Despite recognising the acne bacillus, Unna nevertheless struggled to cultivate the organism from the 'pus smears' he had collected and, only a year later, the cultivation of the acne bacillus was successfully completed by French dermatologist Raymond Jacques Adrien Sabouraud.²²⁹

At the same time, the theory that acne could be caused by a specific pathogen was gaining ground amongst skin specialists. American dermatologist Lucius Duncan Bulkley, who was influential in both planning and securing funding for the establishment of the New York Skin and Cancer Hospital, recognised the difficulties associated with treating the condition.²³⁰

²²⁶ Brumberg, *The Body Project*, 68.

²²⁷ Donald Kennedy, *Kennedy on Diseases of the Skin* (Roxbury: Donald Kennedy, 1871), 7.

²²⁸ Paul Gerson Unna, *The Histopathology of the Diseases of the Skin*, trans. Norman Walker (New York: MacMillan & Co, 1896), 357. Comedones are small flesh-coloured acne papules which usually develop on the forehead and chin of acne sufferers. For a more thorough explanation see: Kristeen Cherney, 'What Is Comedonal Acne and How Is It Treated?', Healthline, <https://www.healthline.com/health/beauty-skin-care/comedonal-acne> Accessed 10 August 2020.

²²⁹ H. C. Douglas and Shirley E. Gunter, 'The Taxonomic Position of *Corynebacterium acnes*', *J Bacteriol* 52 (1946), 15-23.

²³⁰ The New York Skin and Cancer Hospital was solely dedicated to treating patients with chronic skin conditions and skin cancer. Before it opened, the only comprehensive training available to those seeking training in dermatology was in Europe, specifically Paris and Vienna. Barbara Burrall, 'A Brief History of the Department of Dermatology, New York University', *Dermatol Online J* 7 (2001), 7.

Acknowledging that acne, as a rule, caused little ‘physical suffering’, Bulkley claimed that the patients he had encountered during his clinics at the New York Skin and Cancer Hospital often expressed a wish to die as a result of the condition ‘rendering their existence so miserable’.²³¹ Most concerning to Bulkley was the lack of attention paid to acne, despite the fact that it was ‘one of the most frequent of all cutaneous maladies’.²³² According to Bulkley, there were two reasons for this disregard. Firstly, Bulkley claimed that practitioners considered the skin condition and its subtypes to be ‘only deformities’ and ‘not proper diseases’.²³³ For many medical professionals, the skin eruptions and the scars they left behind were an unavoidable consequence of being human. Considered to be part of physical maturation, some nineteenth-century practitioners believed in letting nature run its course and not intervening.

Secondly, Bulkley believed that the ‘neglect of acne’ was also due to the difficulty in treating the condition; it was ‘useless to treat the eruption’.²³⁴ In turn, acne sufferers often ignored the advice of their physicians and were ‘frequently irregular’ in applying the proper medicaments due to a ‘popular distrust’ of the efficacy of treatments. According to Bulkley, such views were a result of unsuccessful attempts at self-treatment of the condition by patients using ‘home remedies’ and ‘advertised nostrums’.²³⁵ In his 1885 practical treatise based on the study of 1,500 cases of patients with acne, Bulkley claimed that ‘in the present work the study of sebaceous disease will be made mainly from patients belonging to the higher classes’.²³⁶ Bulkley argued that these patients’ higher levels of intelligence should not be underestimated when aiding physicians in their search for the cause of acne and the best treatment. Famous for his ardent beliefs in the power of nourishing diets to eradicate both skin complaints and more serious

²³¹ Bulkley, *Acne*, 19.

²³² *Ibid.*, 20.

²³³ *Ibid.*, 21.

²³⁴ *Ibid.*

²³⁵ *Ibid.*, 55.

²³⁶ *Ibid.*

disorders such as breast cancer, he argued that little could be ‘learned of acne therapeutically from the poorer and more ignorant subjects met with in public institutions’.²³⁷ As these ‘poorer’ and ‘ignorant’ patients commonly resided in unhygienic surroundings, and consumed unwholesome diets, they were poor study subjects. Moreover, Bulkley claimed that these types of patients could not be trusted to properly follow the suggested treatment advice. Elsewhere, Bulkley again discussed the problems associated with treating sufferers from different backgrounds, arguing that acne was more common amongst those from the upper classes than those from the poorer segments of American society. Proposing the higher prevalence of acne to be caused by his richer patients’ ‘over-eating, and sedentary habits’, Bulkley suggested he had seen more sufferers from the higher classes as the ‘poor care less for the disfigurement of acne and have less time to devote to the removal of conditions which do not cause bodily suffering’.²³⁸

While he stated that his ‘observations among patients have led me to believe acne is far less common among males than females’, he claimed this could be, in part, due to women being more likely to seek out his help.²³⁹ Of the 973 cases Bulkley treated, 28 per cent were male (319 cases) – a finding he put down to men ‘paying far less attention to such eruptions than females’.²⁴⁰ In addition, Bulkley asserted that women were more likely to be faithful in following his directions and carrying out the appropriate treatment regime than men. Bulkley claimed that the higher proportion of female acne sufferers was a result of their ‘sedentary

²³⁷ Ibid, 22.

²³⁸ Lucius Duncan Bulkley, *Analysis of 8,000 Cases of Skin Disease* (New York: G. P. Putnam’s Sons, 1882), 13

²³⁹ In an annual report from the Department for Diseases of the Skin at St Mary’s Hospital (established in 1867), hospital records show that, for conditions such as acne and eczema, ‘amongst the out-patients of hospitals, the women always largely predominate, principally perhaps on account of their being able to attend at the time when such patients are seen; the men, on the other hand, being unable to leave their work’. ‘1868 Annual Report from the Department for Diseases of the Skin at St Mary’s Hospital’ in Walter B Cheadle, *Report of the department for diseases of the skin at St. Mary's Hospital, for the year* (1868), available from Wellcome Trust Closed Stores EPB Tracts, Shelf mark T.123.

²⁴⁰ Ibid, 14.

habits' predisposing them to sluggish circulation, dyspepsia (indigestion) and constipation which were 'at the bottom of very many cases'.²⁴¹ Whilst Bulkley acknowledged that the bodily changes encountered by women during puberty and the menopause largely contributed to outbreaks of acne amongst females, he also noted that women were more inclined to apply applications to the face in the 'ways of perfumes, powders, and cosmetics, which undoubtedly greatly tend to develop the eruption'.²⁴²

In 1866, skin specialist Thomas Balman similarly identified the condition as being a 'perpetual source of annoyance to females especially' and spoke of young women being 'ready to make any sacrifice of personal comfort that may seem to hold the slightest prospect of a cure'.²⁴³ Given his patients' distress, Balman staunchly reminded his peers that 'these complaints, therefore, should have the best attention of the medical practitioner'.²⁴⁴ During a period when infectious diseases like cholera, tuberculosis, syphilis and typhoid proved a constant reminder of the fragilities of life, it is perhaps surprising that a relatively benign, albeit bothersome condition like acne, struck such fear into the hearts of British and American women. Cultural historian Kathy Peiss claims that during the nineteenth century 'seeing and being seen took on greater cultural importance', particularly in American cities.²⁴⁵ Women of the middle and upper classes relished taking part in new social activities such as going long walks, shopping trips with their friends and eating out – hobbies which put them in the public eye.²⁴⁶ Historian Carla Rice notes that the growing popularity of mirrors during this period meant that women put more focus on their looks and the health of their skin and making comparisons to that of their friends

²⁴¹ Bulkley, *Analysis of 8,000 Cases of Skin Disease*, 13.

²⁴² Bulkley, *Acne*, 22.

²⁴³ Thomas Balman, 'Two Cases of Furuncular Acne in which the Urine Contained an Inordinate Quantity of Urea, "Azoturia"', *BMJ* 2 (1866), 519.

²⁴⁴ *Ibid.*

²⁴⁵ Peiss, *Hope in a Jar*, 45.

²⁴⁶ *Ibid.*

and other women they came across in the public cafes and ballrooms.²⁴⁷ The advent of photography also changed the ways in which women and men considered the image they presented to others. For example, consumers who visited photography parlours often found themselves dissatisfied with the still image captured by the camera and frequently paid to have their pictures ‘altered and tinted’.²⁴⁸

The British medical establishment’s increased interest in acne was also indicative of the increasing popularity of pale, unblemished complexions. Grandiose hats both signified women’s wealth and social standing and provided protection from the damaging effects of the sun. Sporting a bronzed, freckled complexion was associated with the toiling, labouring classes forced to work outdoors under the sun’s unforgiving rays. A pale, unspoiled complexion suggested a woman was a lady of leisure, and often led to the purchase of other items, such as parasols, gloves and scarfs.²⁴⁹

During this period, the importance of having clear and unblemished skin was discussed regularly within both British and American literary magazines. For instance, in the *British Magazine Literary Gazette*, writers frequently used terms such as ‘beautiful clear skin’ ‘a smooth, fair, skin’ and ‘her clear skin, mantling on the skin with the young blood of health’ to describe ideal beauty.²⁵⁰ Similarly, popular fashion magazines of this time spoke of ‘beautiful, healthy complexions’ as being the ‘conservators of female beauty’ and reaffirmed the

²⁴⁷ Carla Rice, *Becoming Women: The Embodied Self in Image Culture* (Toronto: University of Toronto Press, 2014), 234.

²⁴⁸ Paula Black, *The Beauty Industry: Gender, Culture, Pleasure* (London: Routledge, 2004), 26.

²⁴⁹ Lydia Murdoch, *Daily Life of Victorian Women* (London: Greenwood, 2013), 118.

²⁵⁰ Lovell Augustus Reeve, John Mounteney Jephson, Shirley Brooks, Henry Christmas, George Augustus and Frederick Fitz Clarence, *The Literary Gazette: A Weekly Journal of Literature, Science, and the Fine Arts* (London: William Pople Publishers, 1824), 372.

importance of using certain medications and cosmetics to eradicate ‘ugly blemishes, blotches and pimples’ in order to ‘give a healthy, juvenile bloom to the complexion’.²⁵¹

In American fashion magazines both male and female readers were reminded of the significance of unblemished skin complexions. Periodicals such as *Graham’s Magazine* featured women with ‘alabaster skin’ and spoke of their respect for Circassian girls, ‘an indigenous group in the Caucasus’ frequently considered to be ‘the most beautiful racial type’.²⁵² The interest in Circassian girls was ultimately bound with racial theories of the period and the belief that the latter were ‘the purest example of the white race’. According to American historian, Nell Irvin Painter, ‘in the American context, a notion of racial purity had clearly gotten mixed up with physical beauty’.²⁵³

In an article published in *Graham’s Magazine*, the writer discussed the Circassian girls’ plight as slaves and was particularly intrigued by their ‘pure, pale, clear skin’ that helped the women look their ‘very loveliest’. Distinguished surgeon, Valentine Mott, was equally fascinated by Circassian girls’ beauty, discussing them in his 1842 memoir, *Travels in Europe and the East*:

One Circassian girl was of great beauty, of snow-white skin, light hair, and blue eyes, and attired in a pretty silk dress, ornamented with ear rings and other jewellery and altogether recherchee in her appearance; yet she was a poor slave, and never more would see her own romantic mountains on the Euxine. ... The appearance of these lovely girls, like our own matchless countrywomen, contrasted deeply with the monkey

²⁵¹ Ibid, 372; Jane Thomas (ed.), *The London and Paris Ladies’ Magazine of Fashion* (London: Simpkin, Marshall and Co Stationers, 1843), 48.

²⁵² Anon, *Graham’s Magazine*, 41 (1852), 56. According to Lewis, ‘the influential German physiologist Johann Friedrich Blumenbach made the claim that the Caucasus was where one could locate the origins of the white race, inaugurating the term “Caucasian” for whiteness. Circassians, who were white, primeval, and supposedly close to God’s image for humankind, were cast as the most beautiful racial type. Yet Circassians were so decimated during the Caucasian War (1817-1864) – Russia’s battle to obtain access to the Black Sea – that few people today have heard of them. Fewer still know how the region, once seen as the homeland of “whiteness,” became a divining rod for American’s own struggle with racial identity’. Sarah Lewis, ‘The Hidden Past of Sochi’, *The New Yorker* (February 2014), <http://www.newyorker.com/culture/culture-desk/the-hidden-past-of-sochi>, Accessed 14 March 2016.

²⁵³ Nell Irvin Painter, *The History of White People* (London: W. W. Norton & Company, 2011), 50.

faces, shining black skin, and tallow-greased woolly hair of the negroes.²⁵⁴

Beauty manuals of the time also reminded women that special care of the face was vital if they desired a socially acceptable level of attractiveness.²⁵⁵ By the end of the nineteenth century, such ideals were also being extended to the poorer classes. In their new series of penny handbooks, entitled *The Toilet*, London based publisher Messrs. Ward, Lock and Co released a health and beauty manual in 1897 with the intention of ‘reaching the poorest in society’. The series pledged to cover topics such as general literature, domestic economy and simplify the advances that were happening in the field of science. Featured alongside a picture of a woman examining her complexion in front of a mirror (Figure 10), the first chapter of the first issue discussed the link between beauty and a flawless complexion.

²⁵⁴ Valentine Mott, *Travels in Europe and the East* (New York: Harper & Brothers, 1842), 391.

²⁵⁵At the turn of the twentieth century, other skin care and beauty manuals similarly linked healthy, unblemished skin complexions with notions of physical attractiveness and outlined these as the primary indicator of good physical health. For example, American beauty writer, Ruth D. Johnson Maurer, released her self-help skin care guide which targeted housewives and young women unhappy with the quality of their complexion. According to Maurer, women were required to take special care of the face and body and ‘instead of being discouraged in the practice of the little vanities so natural to the heart of the young girl, she should be wisely directed, and carefully instructed in the anatomy of the skin, its possibilities and its limitations’. Maurer believed that both young and mature women must ‘spare no effort’ in taking the time to repair skin defects as she believed perfect skin must be preserved. For the women who were born without a naturally clear complexion and other enviable physical characteristics, Maurer reassured them that with the right advice, common sense and perseverance to achieve a healthier body, they would be able to remedy even the ‘gravest of faults’. Having a clear complexion and good skin health were imperative for any female who aspired to be celebrated for her beauty – and the social significance of beauty at the turn of the twentieth century could not be underestimated. Ruth D. Johnson Maurer, *The Skin, its Care and Treatment; Teaching Every Detail of this Important Work in a Simple, Concise and Practical Manner* (Chicago: McIntosh Battery & Optical Co, 1904), 5.



Figure 10 Toilet Talks. ²⁵⁶

Explaining that women ‘have a great deal to do’ to achieve the desired complexion, the anonymous author argued that ‘in a great many cases it is our own fault if we do not possess a good one’, proceeding to chastise those who thought that a good complexion could be achieved by using external remedies. Instead, only strict attention to maintaining full bodily health, keeping regular habits and striving for a ‘happy and contented condition of mind’ would result in a ‘beautiful, healthy complexion’.²⁵⁷ Since Englishwomen were naturally anxious to possess a ‘white, fine skin, tinted with the rich glowing colour which is indicative of perfect health’, the author reminded readers to be wary of disfiguring skin diseases which remorselessly spoiled

²⁵⁶ Anon, *The Toilet: Containing Hints and Advice on Health, Beauty, and Dress, with Innumerable Recipes for the Toilet Table* (London: Messrs. Ward, Lock and Co, 1897), 9.

²⁵⁷ *Ibid.*

individual beauty: ‘what we have to speak of here is how best to make ourselves fair in the sight of those whose opinion we most value’.²⁵⁸ Within this manual, acne was described as a disease to which many women are ‘singularly prone’. An attack of the ‘annoying little pimples’ prompted women to seek medical attention to eradicate blackheads and stop development of full-blown acne.²⁵⁹ As acne predominantly attacked visible parts of the body, female readers were urged to strictly follow the manual’s guidelines for treating the condition.

As the final section of this chapter will demonstrate, although nineteenth-century acne sufferers were frequently warned about its social repercussions, dermatologists often struggled to provide beneficial therapies to treat the problem. While some urged sufferers to let nature run its course, others endorsed bathing regimes and dietary changes. Moreover, dermatologists expressed this frustration within medical journals, citing the ‘lack of attention’ being paid to the condition. Although some skin specialists preferred to monitor the condition before offering sufferers medical treatment, others adopted a more aggressive approach to treating acne by embracing new technologies such as x-ray therapy.

Treating Acne in the Nineteenth Century

Writing in 1855, Irish dermatologist John Moore Neligan outlined the prognosis and treatment options available to acne sufferers in his *Atlas of Cutaneous Diseases*.²⁶⁰ Neligan began by urging physicians to refrain from treating the condition ‘when the pustules and follicular swellings of acne are few in number’.²⁶¹ Claiming that less severe and moderate forms of acne were ‘rarely subject to treatment’, he reminded readers that ‘in well constituted youths and girls

²⁵⁸ Ibid, 10.

²⁵⁹ Ibid, 28.

²⁶⁰ For more information on Neligan, see: Clare E. Devereux and David J. Eedy, ‘A History of Dermatology in Ireland’, *Ulster Med J* 79 (2010), 95-99.

²⁶¹ Neligan, *Atlas of Cutaneous Diseases*, 467.

they frequently disappear of themselves, seemingly from the changes undergone by the constitution as the period of maturity is attained'.²⁶² For more severe forms of the condition, such as acne indurata, Neligan recommended acidulated drinks, cold baths and cold sulphurous douches. Although Neligan avoided offering his acne patients unnecessary treatment, his decision to treat severe forms of the condition with bathing regimes highlighted how important Victorian-era physicians considered improved hygiene practices to be in treating skin diseases. Within his lectures and dermatological treatises, Erasmus Wilson also promoted good hygiene practices for alleviating diseases of the skin. Deliberating on how best to treat acne, Wilson advocated two specific therapies to be used in conjunction. Firstly, as Wilson considered clearing the infected follicle of its contents to be of primary importance, he suggested combining friction with adequate pressure and kneading the skin in order to encourage the pimple to pop. Once this had been achieved, he encouraged acne sufferers to apply a hydrochloride or sulphur ointment whilst ensuring they had wiped the skin thoroughly with a clean cloth. Secondly, following the application of the ointment, Wilson reminded the conference attendees that, in the morning, the skin required to be washed with a 'profusion of soap and cold water'.²⁶³ Whilst acknowledging that such a treatment could cause patients real discomfort (especially those suffering from acne indurata), Wilson claimed it was never his intention to 'increase the pain and suffering of the patient' and cautioned acne sufferers to use judgment when following his recommendations – advice he felt would be frequently overlooked.²⁶⁴ In Wilson's view, if acne sufferers persevered with the technique and, especially, used the 'stimulating treatment' of the ointment along with soap and cold water, then they would see considerable benefits. Singling out 'young ladies' for special attention, Wilson

²⁶² Ibid.

²⁶³ Erasmus Wilson, *Lectures on Dermatology: Delivered in The Royal College of Surgeons of England in 1876-1877-1878 Including Derangements of Colour of the Skin Together with Affections of the Nails, Hair System, and Cutaneous Gland System* (London: J. & A. Churchill, 1878), 224.

²⁶⁴ Ibid.

claimed his female patients often complained of red and inflamed skin after ‘saponaceous washing’ – a reaction he put down to their previously ‘wholly negligent’ attitude towards using soap. As a result of Wilson’s firm belief in cleaning regimes as an effective treatment for skin diseases and in maintaining overall good health more generally, he commended the use of public bathhouses and encouraged more to be opened.

Two examples of public bathhouses were located in Goulston and Euston squares, London. In the late nineteenth century, the bathhouses attracted thousands of bathers, and the link between cleanliness and better bodily health encouraged other public pools to be established in cities throughout Britain. For example, three public baths were available to the general public in Liverpool by 1874.²⁶⁵ These ‘pools of health’ enticed 34,112 bathers during 1872 alone, with hundreds of children said to have enjoyed the ‘bathing experience’ during both summer and winter. Physicians explained that for people ‘whose vocations require frequent contact of the skin with poisonous or unhealthy substances’, the public-bath was a necessity for maintaining a healthy constitution. This was especially so since the working classes lacked the financial means to pay for private baths.²⁶⁶

Along with encouraging acne sufferers to attend public bathhouses, dermatologists also turned to new technological innovations. For example, in 1889, renowned dermatologist James Startin – at the time Senior Surgeon to the London Hospital and Consulting Surgeon to the Sheffield Public Hospital for Skin Diseases – described how he had achieved ‘favourable results in treating acne by using a vaporiser’ (Figure 11).²⁶⁷ Admitting that treating acne was difficult,

²⁶⁵ Ibid. For more on the development of public bathhouses in Britain and America see: Sheard, ‘Profit is a Dirty Word’, 63-85, and Marilyn T. Williams, *Washing "the Great Unwashed" Public Baths in Urban America, 1840-1920* (Urban Life and Urban Landscape Series) (Ohio: Ohio State University Press, 1991)

²⁶⁶ Anon, ‘Scientific and Sanitary: Public Bath-Houses’, *The Christian Union*, VIII (1873), 550.

²⁶⁷ James Startin, ‘A New Treatment of Acne’, *J Med Surg* 11 (1899), 29.

Startin claimed that the vaporiser removed impurities and the blackheads commonly found in acne. Startin stated that the effect of the vaporiser was ‘very similar to the Turkish bath’, in that it seemed to have a refreshing and cleansing effect on the skin. When the steam was produced by the vaporiser, the patient was instructed to step back by a distance of eighteen inches from the piece of equipment. Next, they were instructed to add ‘two drachms of benzoin tincture or any other drug necessary to suit the case’. Stating that the vaporiser could be used quite safely for a duration of twenty to thirty minutes, Startin advised removing the funnel if a more powerful spray was needed to ease the skin condition’s severity.

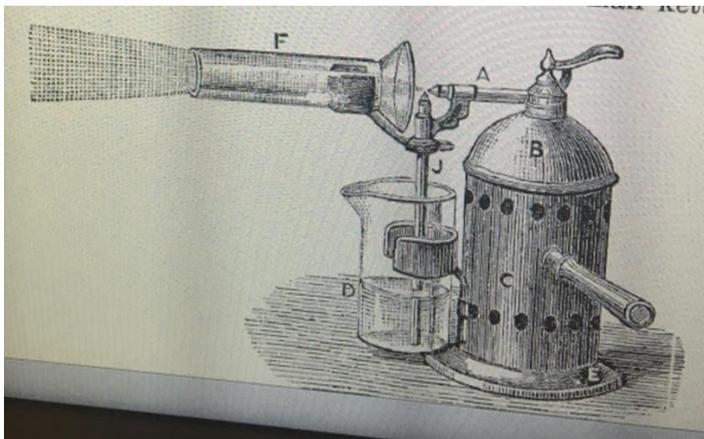


Figure 11 Startin’s vaporiser.²⁶⁸

Henry Bowditch, the Chairman of the State Board of Health of Massachusetts, followed Erasmus Wilson’s lead and emphasised the significant dermatological benefits that daily bathing gave to people who followed his strict guidelines. According to Bowditch, people were to bathe daily in cold or tepid water – a suggestion he believed would prevent any ‘skin diseases from becoming chronic’.²⁶⁹ Bowditch was so sure of the health benefits of daily bathing that he

²⁶⁸ Ibid.

²⁶⁹ Henry Bowditch, ‘The Health of Communities and Individuals: The Means of Preserving It’, in Ernest Hart, *The Sanitary Record: A Journal of Public Health* (London: Smith, Elder & Co, 1875), 189.

advised people of all ages to bath from ‘childbirth to old age’ and spoke of the bathing rituals as being ‘refreshing and exhilarating’ experiences.

Nineteenth-century dermatologists in both North America and Britain also advised sufferers of skin complaints to adopt a more wholesome diet and restrict foodstuffs which worsened their symptoms.²⁷⁰ In 1885, for example, Lucius Duncan Bulkley claimed ‘acne in all its forms is so intimately connected with the general health and condition of the patient, that, in order to accomplish its cure in the most rapid and permanent manner, very careful consideration must be given to the investigation and management of each case’.²⁷¹ Since beneficial pharmacological therapies were rare, Bulkley advocated ‘general and constitutional treatment, to modify the nutrition of the patient so that the ‘functions of the sebaceous glands shall be properly performed’. Reminding his more ‘ignorant’ readers that his dietary advice did not ‘signify a starving process’, Bulkley advised avoiding foodstuffs which seemed to disagree with the sufferer, and those which the patient had wrongly restricted be reintroduced.²⁷² For Bulkley, good health and the wish to be free of acne meant sustaining a healthy diet; although he did concede that each sufferer’s diet should be individually tailored in order to identify the offending foodstuffs causing the outbreak. In Bulkley’s view, most acne sufferers had ‘committed errors of diet and are still committing such, which, if they do not render the disease incurable, certainly retard its removal’.²⁷³ One key error was the frequent ingestion of sweets, which led to the development of new acne lesions. As a result, not only did he recommend acne sufferers cut sweets entirely from their diets, but he also advised his patients to restrict other

²⁷⁰ In 1886, American dermatologist John Robert Kippax argued that ‘In the management of skin diseases attention to the matter of food is an item of the utmost importance, as not infrequently a wisely selected diet will accomplish marked results’. John Robert Kippax, *A Hand-book of Diseases of the Skin, and Their Homœopathic Treatment* (Chicago: Gross and Delbridge, 1890), 285.

²⁷¹ Bulkley, *Acne: Its etiology, Pathology and Treatment* (1885), 228.

²⁷² *Ibid.*

²⁷³ *Ibid.*

sweet foods, such as honey, syrup and ice cream which often ‘proved more or less injurious’.²⁷⁴

Though he encouraged sufferers to consume pure fats, such as the fat of fresh meats and beef, he warned acne patients not to cook fatty substances with other articles of food.

While some dermatologists primarily focussed on the importance of diet, other doctors frequently commented on the difficulties associated with treating acne. For example, while Scottish physician James Copland urged his colleagues to treat acne with a range of arsenic, tonics, sulphur, powdered rhubarb, magnesia, carbonate of soda and mercury (amongst others), reliable cures proved elusive.²⁷⁵ Overall, however, there was concern about the lack of attention paid to the condition:

When we consider what a common affection is acne, it is rather remarkable that so little attention is given to it by the general practitioner. If a youth between the ages of thirteen and twenty-five years asks the advice of his family physician about a face broken out with pimples, he is not infrequently given a large amount of advice and a small amount of arsenic, and told that he will soon outgrow the disease, or out live it, at any rate. If a young girl is afflicted with the trouble she gets similar advice, but the arsenic is now mixed with a little iron, or some emmenagogue; and she, too, is sent on her way to await the predicted disappearance.²⁷⁶

Another technique explored by physicians in the treatment of acne was light therapy. After the discovery of x-rays by Wilhelm Rontgen in 1895, American dermatologist William Allen Pusey began to treat acne patients with x-ray therapy from 1901 onwards, publishing a series of case

²⁷⁴ Ibid, 230.

²⁷⁵ James Copland ‘The Treatment of Acne’, in *A Dictionary of Practical Medicine* (London: Longman, Brown, Green, Longmans & Roberts, 1858), 18. At an 1886 meeting of the American Society of Microscopists, it was revealed that Erasmus Wilson treated his acne patients with a therapy ‘composed of hypochloride of sulphur ointment and biochloride of mercury in spirits of wine, or in an emulsion of bitter almonds in proportion of one to two grains to the ounce’. Wilson advised his patients that they should frequently wash their faces with soap and apply the ointment both in the morning and at night – a therapy that was thought to reduce inflammation. Geo. E. Fell, ‘Demodex Folliculorum in Diseased Conditions of the Human Face’, *Proceedings of the American Society of Microscopists*, 8, Ninth Annual Meeting (1886), 120-127.

²⁷⁶ Henry W. M. Blanc, ‘The Treatment of Acne’, *JAMA* 17 (1890), 601-604.

studies. Most of the patients Pusey treated with x-ray therapy were female adolescents, including this case:

Case VII. Miss G., age twenty, with a sluggish, pasty skin, During the last year she has been annoyed by comedones and a fairly severe acne about the chin and lower part of the face. This patient had seventeen X-ray exposures between December 13, 1901, and January 23, 1902, with almost entire disappearance of the disease. She has still an occasional comedone, but has not for two months had an acne lesion.²⁷⁷

Although Pusey did not disregard any other acne treatments, he stated unequivocally that there was little doubt that the aforementioned acne patient's clear improvements could be attributed to the effects of the x-rays. In Pusey's view, x-rays acted by chiefly decreasing the 'activity and size of the sebaceous gland'.²⁷⁸ As the 'gaping follicles' decreased in size, comedones disappeared, the oiliness of the skin diminished and the 'texture of the skin greatly improved'. Pusey was particularly impressed by x-rays' ability to treat 'deep-seated, severe and otherwise intractable cases of acne indurata'.²⁷⁹ Advocating x-rays for the treatment of other cutaneous ailments such as keloids, scars, Lupus Vulgaris, Rosacea, Pruritus, Sycosis and Tinea (amongst others), Pusey unsurprisingly believed x-ray therapy to be a quick, safe and extremely valuable treatment for acne, although some doctors warned against the 'indiscriminate use of X rays' in treating diseases of the skin.

While dermatologists advocated improved hygienic practices, dietary modifications and x-ray therapy for treating acne, advertisements published within American newspapers from beauty doctors also publicised the use of dangerous therapies. Figure 12 shows one such therapy recommended for treating acne blemishes: Mrs Graham's Face Bleach. In the advert, the right side of the girl's face is entirely covered by disfiguring blemishes, while the left side, which

²⁷⁷ William Allen Pusey, 'Acne and Sycosis Treated by Exposures to Roentgen Rays', *J Cutan and Genito-Urin Dis* 5 (1902), 204-211.

²⁷⁸ William Allen Pusey, 'The Therapeutic Use of X-Rays: Three Years After', *JAMA* 19 (1905), 1496-1504.

²⁷⁹ *Ibid.*

has been treated with the bleach, resembles a pure, unspoiled and childlike complexion, free from the ravages of acne.

Drug store.

BLEACHING THE SKIN



The wonderful effect of MRS. GRAHAM'S treatment for the bleaching of the skin is shown in the above engraving, which is from a portrait of a little girl in Mrs. Graham's establishment at San Francisco, who has one side of her face and hand and arm covered with freckles, while the other side of her face and other arm and hand are as fair and white and free from blemish as an infant's. This is to show and prove the effects of her Face Bleach, which was used only on the one side.

Another young lady has one side of her face covered with terrible pimples and blackheads, while the other side has been completely cured with Mrs. Graham's Acne Cure. Each of these cures are incontestible evidences of the merits of Mrs. Graham's preparation.

Mrs. Gervaise Graham,
Beauty Doctor,
AT CULMER BLOCK,

Figure 12 Mrs Graham's 'face bleach'.²⁸⁰

²⁸⁰ *The Salt Lake Herald* (18 March 1891), 5.

At Druggists, or sent by mail, 10c.



**THOSE HORRID
PIMPLES.**

Of late the steadily increasing interest in dermatology shows the importance of paying reasonable attention to the matter of which it treats.

There are four varieties of Acne that we are most commonly called upon to treat—Acne Simplex, Acne Rosacea, Acne Indurata and Acne Miliaris.

Acne, the term now used, may be regarded as the most common of all cutaneous affections. It is an inflammatory affection of the sebaceous follicles. It may be asserted that the majority of adults, male or female, have not passed through the period of adolescence without having at least a mild form of acne either on the face or upper portion of the back. These are the regions upon which the affection is most apt to appear. They may increase in number, new ones coming faster than the old ones disappear. Month after month the skin becomes more thickened by the products of inflammation, and finally the disease reaches the chronic and disfiguring stage, and this stage is very frequently a most unsightly one. From the activity of the inflammation and the great number of pimples, the face has assumed an aspect anything but pleasant to look upon aside from the personal discomfort to the patient. Pimples are always a source of annoyance, especially to young ladies, whose complexion would be all that could be desired without them.

FACIAL BLEMISHES.

He has the largest establishment in the World for the treatment of the Hair and Scalp, Eczema, Moles, Warts, Superfluous Hair, Birthmarks, Bitch, Freckles, Wens, Red Nose, Red Veins, Oily Skin, Acne, Pimples, Blackheads, Barber's Itch, Scars, Puffings, Powder Marks, Facial Developments, Sunken Cheeks, etc. Consultation free at office or by letter. 128-page book on all skin and scalp affections and their treatment sent sealed to any address for 10c.

JOHN H. WOODBURY, Dermatologist,
125 West 43d St., New York City.
ESTABLISHED 1879. 14

Figure 13 'Those Horrid Pimples'.²⁸¹

In other advertisements, New York-based dermatologist John H. Woodbury (Figure 13) informed readers of the grave dangers associated with leaving acne untreated. Between 1870 and 1909, he 'built an empire of cosmetic surgery institutes in 6 states, with 25 physician/surgeon employees and an advertising budget of \$150,000/year (1892 data)'.²⁸² Along with developing a 'proprietary soap and cosmetic line, which he sold to Jergens for \$212,500 in 1901', many of his adverts frequently encouraged acne sufferers to seek out his help in order to eradicate 'those horrid little pimples'.²⁸³ Other advertisements for anti-blemish

²⁸¹ *The Morning Call* (26 April 1891), 17.

²⁸² Keith Denkler and Rosalind Hudson, 'The 19th Century Origins of Facial Cosmetic Surgery and John H. Woodbury', *Aesthet Surg J* 35 (2015), 878-89.

²⁸³ *Ibid.*

therapies predominantly targeted women (Figure 14 and 15) and reminded male readers to remember to ‘tell your sister’ (Figure 16), indicative of the evolving marketing strategies employed by drug and cosmetic manufacturers in the late nineteenth century.



Figure 14 ‘Every woman wants a good complexion’.²⁸⁴

²⁸⁴ *Arizona Republican* (1 September 1898), 2. Ripans Tabules were tablets to alleviate indigestion sold in the nineteenth century.

an old channel. The two men went out again yesterday morning.—Mohave Miner.

Tell Your Sister

A beautiful complexion is an impossibility without good pure blood, the sort that only exists in connection with good digestion, a healthy liver and bowels. Karl's Clover root tea acts directly on the bowels liver and kidneys keeping them in perfect health. Price 25 cts. and 50 cts., for sale by W. R. Edwards. bl.

BORN.

MICHELBIK—In Milton on February 26, 1899, to the wife of Peter Michelbick, a daughter.

Figure 15 'tell your sister'.²⁸⁵

A + Beautiful + Woman



SMILES SWEETLY at the thought of her own loveliness. Every woman smiles sweetly who uses Wisdom's Robertine, for it gives to her a clear, transparent, beautiful skin. A beautiful complexion alone is often sufficient to make a woman beautiful. A woman who has a beautiful complexion should preserve it; the one less fortunate in this possession should beautify it. Wisdom's Robertine does just what is claimed for it. It not only preserves and beautifies the complexion, but repairs the damages done by the use of the many dangerous compounds now in the market, by its tonic effect, restoring the skin to a natural, healthy action. Read the testimonials from famous artistes, celebrated chemists and eminent physicians.

Figure 16 'A Beautiful Woman'.²⁸⁶

²⁸⁵Anon, *The Coconino Sun* (4 March 1899), 18.

²⁸⁶Anon, *The Caldwell Tribune* (14 February, 1891), 7.

Conclusion

During the nineteenth century both physicians and patients became increasingly concerned about acne. Although previous generations of physicians had not recognised acne as a disease requiring medical attention, social and cultural changes spurred interest in the disorder. Concurrently, due to the efforts of Robert Willan and Thomas Bateman, the new scientific field of dermatology flourished in Britain. Along with Willan and Bateman introducing a new classification system for identifying skin diseases, developments in microscopical studies, photography and the opening of new skin clinics enabled physicians to better acquaint themselves with the body's largest organ. The increasing focus on skin diseases such as acne during this period saw physicians in both North America and Britain theorise and debate the cause of the condition. Given the lack of a specific cause, physicians focussed on the lifestyles, menstruation cycles and sexual practices of their patients.

Fears of the condition as an indicator of poor cleanliness and the idea that it was detrimental to social standing arguably reflected broader societal concerns about hygiene, class, race and female beauty in the late nineteenth century. Along with concerns about bodily hygiene, dermatologists suggested that the challenge of successfully curing acne was inhibited by sufferers' social class. As well as concerns that imperfect hygiene and class distinctions both caused and complicated the treatment of acne, debates concerning the condition increasingly identified it as being a hindrance to female sufferers' social standing. Physicians, beauty manuals and fashion magazines all spoke of the condition being a constant source of worry and annoyance to females. Finally, in terms of early treatment options available for acne, physicians in the nineteenth century disagreed about the best way to approach the condition. While some dermatologists bemoaned the lack of attention general practitioners gave to acne, others suggested that the best course of action for approaching acne was to let nature run its course

and allow the condition to clear up on its own. Whereas some dermatologists treated the condition using arsenic, vaporisers and recommended improved hygiene measures and dietary changes, towards the end of the nineteenth century, other dermatologists embraced unproven treatments such as x-ray therapy to treat acne.

Although developments in medicine and broader cultural and social changes in nineteenth-century society ultimately led to more attention being paid to acne, as the twentieth century dawned the unknown cause of the condition led to competing explanations and solutions being put forward by specialists from diverse medical fields. As the following chapter explains, advances in the fields of allergy, bacteriology, endocrinology, genetics, gastroenterology, and psychosomatic medicine during the first half of the twentieth century served to further physicians' understanding of the condition.

Chapter 3

From Fleming to a Fragile Psyche: The Contested Nature of Acne

Aetiology

In 1932, during the Centenary Meeting of the British Medical Association in London, British dermatologist Percy Mumford presented a paper entitled: ‘Acne Vulgaris, A Symptom, Not A Disease’.²⁸⁷ According to Mumford, who was described as the ‘first, properly trained’ dermatologist to be appointed to the Manchester Royal Infirmary, the cause of acne could not be attributed to one single aetiological factor.²⁸⁸ Despite ‘a number of very different aetiological theories for the disease being cited in the medical literature’, Mumford believed the ‘commoner cause would appear to be certain changes of puberty – particularly menstrual disorders – seborrhoea, constipation, incorrect diet, unhygienic physical life, and lack of local cleanliness’. Rather than classifying acne as a disease, Mumford urged conference attendees to instead think of the condition as ‘a symptom of various abnormalities, physical and chemical, elsewhere in the body’.²⁸⁹

As this chapter will show, Mumford’s paper came at a time when specialists from different disciplines such as allergy, bacteriology, endocrinology, genetics, gastroenterology and psychiatry all put forward their own specific theories concerning the aetiological cause of the condition and employed a diverse range of therapies for treating it. In order to demonstrate the conflicting range of aetiological theories proposed by specialists to be the cause of acne in the

²⁸⁷ Percy Mumford, ‘Acne Vulgaris, A Symptom, Not A Disease’, paper read during the Section of Dermatology at Centenary Meeting of the British Medical Association in London, 1932, 141-2.

²⁸⁸ Maurice Garretts, ‘The Development of Dermatology in Manchester’ (unpublished). Available from the Regional History Papers section of the British Association of Dermatologists <http://www.bad.org.uk/about-us/history/regional-history-papers>, Accessed 7 September 2019.

²⁸⁹ Mumford, ‘Acne Vulgaris’.

early to mid-twentieth century, this chapter is split into three sections, each of which examines one proposed cause of the condition.²⁹⁰ The first section investigates the theory that acne was caused by a bacterial infection and examines the range of vaccines employed by bacteriologists, such as Alexander Fleming, to treat it. The chapter next examines the findings of physicians and allergists who proposed acne was caused by sensitivities to particular foodstuffs. It concludes by examining the theory put forward by proponents of psychosomatic medicine that acne was caused by psychogenic factors. Overall, it argues that the deluge of theories concerning the aetiological cause of acne and the different treatment options used by dermatologists and physicians to treat the condition during the first half of twentieth century highlights the complexities associated with finding an effective, safe and permanent cure for the condition.

Acne and Vaccine Therapy

On 31 August 2018, *The Independent* featured an article entitled: ‘New Vaccine Could Prevent Acne, Study Reveals’.²⁹¹ It described how scientists from the University of California, San Diego, had discovered that acne could be combatted by employing an antibody to stop the ‘inflammation-triggering toxin called Christie-Atkins-Munch-Peterson (CAMP)’ which is secreted by the bacteria thought to be involved in causing the skin condition. Bemoaning the lack of effective or tolerable drugs to fight the condition such as antibiotics, hormonal

²⁹⁰ In the early 1930s, acne was defined as a ‘cutaneous disease of multiple etiologic background’. Whilst specialists from different fields each tried to attribute the condition to a singular cause, John H. Stokes and Allen D. King – dermatologists from the Department of Dermatology and Syphilology at the University of Pennsylvania – claimed that acne had resisted the ‘tendency to compress it into the single cause categories so popular in the past three decades of medical progress’. Given the complexities associated with identifying the cause of acne, it was possible that ‘familial and perhaps hereditary proposition plays a part in this complex background’. Analysing the medical records of identical twins with acne and other acne sufferers’ medical histories, Stokes and King found that ‘acne vulgaris was twenty-six times as frequent in the parents of sufferers, and twice as frequent in the siblings of persons with acne vulgaris as in those of persons who have never had acne’. They urged clinicians to consider these familial and heritable elements when weighing up both prognosis and treatment. John H. Stokes and Allen D. King, ‘Acne Vulgaris: Heredity in the Etiologic Background’, *Arch Derm Syphilol* 26 (1932), 456-462.

²⁹¹ Rachel Hosie, ‘New Vaccine Could Prevent Acne, Study Reveals’, *The Independent* (August 2018).

treatments and ‘the severe drug Accutane’, the study’s lead researcher, Chun-Ming Huang, stated:

Once validated by a large-scale clinical trial, the potential impact of our findings is huge for the hundreds of millions of individuals suffering from acne vulgaris. New, safe and efficient therapies are sorely needed.²⁹²

Hailed as being ‘among the most effective interventions in modern medicine’, the introduction of vaccines to treat a host of infectious diseases in the twentieth century saved millions of lives and had a substantial impact on global public health.²⁹³ Following Edward Jenner’s smallpox vaccination, subsequent scientists, such as Louis Pasteur, began developing vaccines to other diseases.²⁹⁴ Pasteur produced a therapeutic vaccine for the rabies virus, which demonstrated the immense potential vaccines had in eradicating a host of often deadly infectious diseases.²⁹⁵ As the field of immunology developed, new vaccines were introduced. During the 1920s, for example, vaccinations for diphtheria, tetanus, whooping cough and tuberculosis (TB) were all made available to sufferers of the aforementioned conditions.

In Britain, bacteriologist Sir Almroth Wright became a vocal advocate of vaccine therapy for treating a whole host of bodily ills, including those affecting the skin. Wright founded the inoculation division at St Mary’s Hospital in London in 1902, and the majority of research in his laboratory focussed on combating ‘pneumonia, boils, and other bacterial diseases’.²⁹⁶ As well as being devoted to combating deadly and disfiguring skin conditions, Wright was also an entrepreneur with close ties to the pharmaceutical company Parke Davis Company. As the

²⁹² Ibid.

²⁹³ Heather M. Kling, Gerard J. Nau, Ted M. Ross, Thomas G. Evans, Krishnendu Chakraborty, Kerry M. Empey and JoAnne L. Flynn, ‘Challenges and Future in Vaccines, Drug Development, and Immunomodulatory Therapy’, *Ann Am Thorac Soc* 11 (2014), 1-10.

²⁹⁴ Kendall A. Smith, ‘Louis Pasteur, the Father of Immunology?’, *Front Immunol* 3 (2012), 1-10.

²⁹⁵ Ibid.

²⁹⁶ Carla C. Keirns, ‘Germs, Vaccines, and the Rise of Allergy’, in Kenton Kroger, Pauline Margaret Hodgson Mazumdar and Jennifer E. Keelan (eds), *Crafting Immunity: Working Histories of Clinical Immunology* (London: Routledge, 2008), 91.

company held the rights to market and sell the vaccines made at St Mary's, Wright saw both an opportunity to benefit personally from his vaccine programme and to fund future research at St Mary's investigating the clinical benefits of vaccine therapy.²⁹⁷

In 1904, Wright turned his attention to acne and published a paper which claimed that the condition could 'be treated in a very effective manner by inoculations of staphylococcus vaccine'.²⁹⁸ Although Wright promoted inoculations of the staphylococcus vaccine for acne, closer inspection of his case studies actually showed the therapy to be unreliable and, at best, a short term remedy. Presented with the case of a twenty-four-year-old medical student with a 'long history of acne, boils and suppuration after an operation', which had resulted in scars and disfigurement, Wright prescribed his staphylococcus vaccine.²⁹⁹ On 1 December 1903, the student was inoculated with a quantum of vaccine corresponding to 1,000 million staphylococci. Within a week the patient was describing himself as 'much better', and on 8 December he was given a further dose of 5,000 million. Ten days later, Wright reported that his patient's 'appearance had improved in a wonderful manner, every trace of postulation having disappeared'. While the staphylococcus vaccine had apparently proved successful in treating the patient's severe outbreak, the clinical benefits did not last. During Wright's follow-up consultation with the patient on 25 April 1904, it was discovered that he had suffered a relapse; Wright explained the outbreak as being due to the pressure his patient was under whilst studying for his medical exams. Although Wright was undeterred and continued to treat acne patients with his vaccine, it was nevertheless found to be unsuccessful as a long-term treatment option.³⁰⁰

²⁹⁷ Ibid.

²⁹⁸ Almroth Wright, 'On the Treatment of Acne, Furunculosis, and Sycosis by Therapeutic Inoculations of Staphylococcus Vaccine', *BMJ* 1 (1904), 1075–1077.

²⁹⁹ Ibid.

³⁰⁰ Lois N. Magner, *A History of Medicine* (Florida: CRC Press, 1991), 359.

Six years after the publication of Wright's paper, inconsistencies concerning the therapeutic benefits of the staphylococcus vaccine were addressed by the pharmacologist, biologist, botanist and eventual Nobel Prize winner Alexander Fleming. Although Fleming conceded that the vaccine had provided a 'fair measure of success' and had, in most cases, reduced the severity of outbreaks, he argued that other acne sufferers had reported no improvement whatsoever following treatment.³⁰¹ Moreover, patients prescribed the vaccine as a long-term therapy often suffered relapses and were left frustrated by its failure to deliver long-term clinical benefits. For Alexander Fleming, the reasons for these inconsistencies were straightforward:

When we came to inquire more closely into the bacteriology of acne the reason for this seemed fairly clear. The basis of the acne pustule is a comedo which has for many years been associated with a bacillus which has been called the *Bacillus acnes*. This bacillus is very common on the skin of all seborrheic individuals and can be seen in myriads if a film of a comedo be made. While authorities are more or less agreed as to the microorganism of the comedo, there is some difference of opinion as to the causation of the pustule. The large numbers of staphylococci which are present in the pus from some lesions, together with the results of vaccine treatment with staphylococcus vaccine, make it quite clear that in many of these cases there is a staphylococcic infection, but in some cases the condition is very different. Here staphylococcus vaccine has almost no effect on the pustulation, and on examination of the pus one finds time after time only acne bacillus present in the films, and on cultivation a pure culture of the acne bacillus is obtained repeatedly.³⁰²

As Fleming's statement outlines, acne vaccines could only be successful if physicians treated sufferers with the vaccine that combatted the specific bacteria causing their outbreak. While the customary vaccine therapy used for treating the bothersome condition 'contained killed staphylococci', many medical professionals were beginning to question the treatment strategy. Fleming, in an attempt to allay his colleagues' fears, argued that the reason they were feeling apathetic towards vaccine therapy was because they were ultimately treating their acne patients

³⁰¹ Alexander Fleming, 'Discussion on Vaccine Therapy: its Treatment, Value, and Limitations', *Proc Roy Soc Med* 3 (1910), 137–139.

³⁰² *Ibid.*

with the incorrect vaccine. As Fleming explained, in cases improved by administration of the staphylococcus vaccine, there were large numbers of staphylococci bacteria present in the pus of some lesions which made ‘it quite clear that in many of these cases there is a staphylococcal infection’.³⁰³ For the patients who failed to respond, however, Fleming found evidence of acne bacillus bacteria present in the pus of their pustules and began combining vaccines of acne bacillus with staphylococcus vaccines – a move which dramatically improved the health of some patients’ skin:

The first case treated with a vaccine of the acne bacillus was a woman who had very bad pustular acne on the face and shoulders for many years. She had been having staphylococcal inoculations at intervals of ten days for about a year. The condition had improved at first, but for some months had been practically stationary. She then had the same stock staphylococcus vaccine, combined with 20 million acne bacillus vaccine. This was followed by the fresh pustules. Ten days after she had another inoculation, this time of only 10 million acne bacilli, and she had regular inoculations of the same dose of staphylococcus that she had previously been having, with 5 to 10 million acne bacilli. In three months, almost all traces of acne had disappeared.³⁰⁴

While Fleming explained that he predominantly treated acne patients with stock vaccines of staphylococcus and acne bacillus, he claimed that some patients’ acne would only improve once they had been treated with a ‘special vaccine of their own acne bacillus’.³⁰⁵

Colleagues who followed Fleming’s advice noticed a marked improvement in the health of their acne patients’ skin. In 1911, for example, American dermatologist Martin F. Engman claimed to have recorded some noteworthy results after treating 208 acne patients with ‘the suspensions of acne bacillus, using a proper technique’.³⁰⁶ Evaluating his findings, Engman claimed that his vaccine led to the complete clearing of the oily, yellowish and muddy condition of the skin,

³⁰³ Ibid, 138.

³⁰⁴ Ibid.

³⁰⁵ Ibid.

³⁰⁶ Martin F. Engman, ‘Treatment of Acne Vulgaris with Acne Bacillus Suspensions’, *Interstate Med J* 12 (1911), 251.

whilst the skin texture and complexion markedly improved.³⁰⁷ Despite some dermatologists in both Britain and the US continuing to use vaccines to treat acne, a host of other physicians declared the therapy to be of limited value. In 1911, for instance, Sir Malcolm Morris and Ernest Dore argued that vaccines should be thought of merely as a supplementary treatment to more efficacious therapies such as x-ray therapy and believed immunity to acne would be difficult to realise.³⁰⁸ Despite this criticism, Engman continued to persist with vaccine therapy and insisted that vaccines were of ‘considerable value’ in eradicating the skin complaint.³⁰⁹

Others, such as Stanford University’s Ernest K. Stratton, proposed different strategies for combating acne. Arguing that the ‘relief of acne was dependent essentially upon intelligent local treatment’ Stratton claimed that his colleagues’ first concern should be to combat the pustules and subcutaneous abscesses by ‘incising them and maintaining drainage with a hygroscopic wet dressing, preferably alkaline’. Vaccine therapy could follow, although Stratton acknowledged his medical colleagues’ scepticism. In his own experience, Stratton found the best results were obtained from the ‘stock mixed staphylococcus vaccines’ – though Stratton warned his fellow dermatologists not to expect the vaccine to clear anything except the pustular type of acne. While Stratton used vaccines of staphylococcus alone or mixed with a combination of acne bacillus to eradicate the pustules, he spoke of still having ‘papules, comedones and a thickened skin to deal with’.³¹⁰ Thus, in order to obtain the best results, Stratton claimed that the next step was to get rid of said skin by peeling. As well as using a range of ointments, pastes and lotions to remove the thickened layer of skin on the patient’s face, Stratton advocated the use of x-ray therapy, which would lead to atrophy of the sebaceous glands. With the resulting reduced levels of sebum, the comedones would thus disappear.

³⁰⁷ Ibid.

³⁰⁸ Malcolm Morris and Ernest Dore, ‘The Treatment of Acne by Vaccines’, *Br J Dermatol* 31 (1911), 311–322.

³⁰⁹ Martin F. Engman, ‘Biologic Therapy in Acne Vaccine Therapy’, *JAMA* 76 (1921), 176–177.

³¹⁰ Ernest K. Stratton, ‘Treatment of Acne Vulgaris’, *Cal West Med* 23 (1925), 1301–1303.

Although Stratton's technique for treating acne may have worked in the long term, it was often a time consuming and arduous treatment regime for patients. Along with demonstrating some dermatologists' dogged persistence in using vaccines despite their questionable efficacy, Stratton's paper also serves to highlight the challenges acne sufferers faced when attempting to find an effective remedy during the early twentieth century. Stratton's four step treatment regime required patients to pledge a significant proportion of their time and resources to receiving the remedy. Moreover, though Stratton assured patients that x-ray therapy was 'perfectly safe', as with his confident affirmations regarding the efficacy of vaccines, this overlooked evidence that x-rays could cause skin cancer.³¹¹

Other physicians were less confident about the efficacy of acne vaccines. Canadian dermatologist Lemuel P. Ereaux discussed his experience of treating acne sufferers with different types of vaccines in 1938:

At our clinic vaccines of all kinds – both autogenous and stock, including those from stool culture – have been used with varying success. Toxoids have not presented a brilliant exhibition. Bacteriophage, locally, intradermally or subcutaneously has not, in our hands, given spectacular results. All these bacterial agents have been weighed by us and found wanting.³¹²

Ereaux's pessimism about vaccines was shared by Irish dermatologist Reginald Hall. In 1940, Hall claimed that 'in frankly pustular cases, staphylococcus vaccine, either stock or autogenous, or toxoid, occasionally help; but the ordinary case of simple acne is rarely benefited by acne vaccine'.³¹³ Although vaccine therapy continued to be used, in some cases, as an adjunct

³¹¹ S. B. Wolbach, 'The Pathological Histology of Chronic X-ray Dermatitis and Early X-ray Carcinoma', *J Med Res* 21 (1909), 415-450.

³¹² L. P. Ereaux, 'Facts, Fads, and Fancies in the Treatment of Acne', *CMAJ* 39 (1938), 257-261.

³¹³ Reginald Hall, 'Acne Vulgaris', *Ulster Med J* 9 (1940), 41. In 1936 Robert Klaber – the Chief Assistant for the Skin Department at Bartholomew's Hospital London – reported on the treatment of acne with vaccines of staphylococcal toxoid. According to Klaber, despite some encouraging signs that acne could be 'greatly improved or cured by the use of toxoid', the claims were not substantiated from the findings of later researchers. Robert Klaber, 'Specific and Non-Specific Treatment of Boils with Special Reference to the Results of Treatment by Staphylococcal Toxoid', *Lancet* 2 (1936), 784-786.

therapy, its use declined in the post-war period. Dermatologist Gordon Barrett Mitchell-Heggs – based at the Skin Department at St Mary’s Hospital, London – indicated that vaccines were not ‘often given’ in a 1959 paper delineating the various drug treatments available. While Mitchell-Heggs claimed that broad-spectrum antibiotics used in acne made vaccine therapy obsolete, like his medical colleagues before him, he admitted that a mixed staphylococcus and acne bacillus vaccine sometimes worked for patients whose ‘lesions staphylococci and even acne bacilli may be cultured’. Nevertheless, he concluded his discussion of the value of vaccines with an ominous warning: ‘only try this procedure if all else fails’.³¹⁴ Although vaccine therapy had proven unsuccessful as the long awaited cure for acne, there was no shortage of alternative theories explaining the cause of acne. One such theory centred upon the idea that acne was caused by sufferers being allergic to certain foodstuffs. As allergists and dermatologists tried to uncover specific allergens that made people susceptible to acne, they also employed a host of specialised diets in an attempt to alleviate the condition.

Allergies, Special Diets and Vitamin Therapy

In dermatology textbooks of the early twentieth century, physicians and dermatologists often spoke of the link between poor diets, food allergies and the onset of acne. Historian Matthew Smith states that, during this period, ‘as with migraine and asthma, dermatological complaints were attributed to a wide range of factors, including diet’.³¹⁵ In the late nineteenth and early twentieth centuries, for example, the ‘development of resistance and anaphylaxis was understood, which helped create a proper understanding of the basis of clinical and immunological phenomena associated with hypersensitivity-type reactions to foods’ – a finding that was not overlooked by dermatologists seeking the causative agent responsible for

³¹⁴ G. B. Mitchell-Heggs, ‘Drugs in the Treatment of Acne Vulgaris’, *BMJ* 2 (1959), 1320.

³¹⁵ Matthew Smith, *Another Person's Poison: A History of Food Allergy* (New York: Columbia University Press, 2015), 37.

acne.³¹⁶ In 1912, for example, physician Thomas Francis suggested that consuming eggs frequently caused acne, and that following ingestion people could expect to break out in spots and boils within thirty-six hours.³¹⁷ Whereas reactions to disagreeable foods like mussels and lobster were often linked to the development of skin complaints like nettle-rash and urticaria, everyday foods like milk and yeast were, likewise, occasionally found to be common triggers of acne. In 1924, American dermatologist Albert Hoge argued that an allergy to milk could cause outbreaks of acne in susceptible patients. Discussing the case study of a fifteen-year-old boy, he presented the patient's medical history and found that, in the days following the consumption of milk, the boy nearly always broke out in pus-filled pimples. According to Hoge, whilst the boy did not enjoy drinking milk, he was forced to drink it on several occasions. Although the boy found no relief with treatments such as vaccines and light therapy, his face markedly improved following a measles outbreak during which he could only eat toast as a result of feeling poorly. As a result, Hoge subsequently tested the boy for allergies to milk and cheese, which positively confirmed his intolerance to the dairy products. Upon receiving these results, Hoge ordered the adolescent to refrain from eating any dairy and placed him on a 'milk free diet, not even eating bread that had milk in it'.³¹⁸ As a result, the boy (Figure 17) reported a huge improvement in the health of his skin, although he had been left with some facial scarring.

³¹⁶ Wioletta Agnieszka, Żukiewicz-Sobczak, Paula Wróblewska Piotr Adamczuk and Przemysław Kopczyński, 'Causes, Symptoms and Prevention of Food Allergy', *Postepy Dermatol Alergol* 30 (2013), 113-116.

³¹⁷ Thomas E. Francis, 'Diet in the Causation of Acne and Boil', *BMJ* 2 (1912), 402.

³¹⁸ Albert H. Hoge, 'Acne Due to Milk Allergy', *JAMA* 82 (1924), 788-789. It is interesting that in the second picture the boy is wearing a tie, perhaps suggesting the addition of a new clean-cut image to match his cleaner complexion.



Figure 17 'Acne and milk allergy'.³¹⁹

Other case studies suggesting allergies to foodstuffs were published in *Journal of the American Medical Association* in the forthcoming years. For instance, American dermatologists, such as Bedford Shelmire and Henry Hazen, similarly identified cases in which their patients' outbreaks of acne could be attributed to foodstuffs such as iodized salt and yeast.³²⁰ Though some dermatologists had identified acne sufferers as being particularly sensitive to yeast, ironically some pharmaceutical companies had also begun to advertise their yeast-based products as being an acne cure. In the 1930s, for example, advertising agency, Walter Thompson Company, were responsible for an inventive advertising campaign which promoted the benefits of Fleischmann's yeast for curing acne. The yeast, which had previously been used as a food product to bake bread, was now rebranded as a product with healing properties. With its supposed high vitamin quantity, Fleischmann's yeast was said to be helpful for a range of health complaints.³²¹ However, Walter Thomson Company also used sophisticated advertising

³¹⁹ Ibid.

³²⁰ Bedford Shelmire, 'Acne from Iodized Salt', *JAMA* 90 (1928), 1869-1870; Henry Hazen, 'Acne Vulgaris Following the Taking of Yeast', *JAMA* 100 (1933), 837.

³²¹ For an in-depth historical examination of the vitamin industry see Rima Apple, *Vitamania: Vitamins in American Culture* (New Jersey: Rutgers University Press, 1996).

pleys to sell their product. As shown below, the advertisements for Fleischmann's yeast played on adolescents' fears concerning job security, finding a romantic partner and having the financial resources to buy popular consumer products like cars.

I CAN'T TAKE A BOY WITH THAT MANY PIMPLES!

... But Jack gets a tip— AND a JOB!

HAIR SUCK, SUIT PRESSED, SHOES SHINED— EVERYTHING O.K. BUT THE OLD PIMPLES

MR. KNIGHT HIRES THE OFFICE BOYS— THIS WAY, BUDDY

GOSH, WHAT A SKIN

SAY, KNIGHT, DID YOUNG JACK SMITH SEE YOU ABOUT A JOB?

YES, NICE KID. BUT I COULDN'T WISH SUCH A DIMPLY FACE AS ALL THAT ON THE OFFICE!

BUT CONNIE, I CAN'T BUY IT UNLESS I GET A JOB— AND I CAN'T GET A JOB UNLESS—

— UNLESS YOU GET RID OF THOSE PIMPLES, I BET! WHY DON'T YOU EAT FLEISCHMANN'S YEAST, LIKE MY BROTHER DID?

LATE CONNIE! I'VE GOT A JOB! I WAS PICKED BECAUSE I WAS 'CLEAN-CUT'— NO PIMPLES THIS TIME. NOW WE CAN GET THAT CAR!

Don't let Adolescent Pimples make YOU lose out

After the beginning of adolescence—from about 13 to 25, or even longer—important glands develop and final growth takes place. This causes disturbances throughout the body. The skin gets oversensitive. Waste poisons in the blood irritate this sensitive skin. Pimples appear. Fleischmann's Yeast helps to correct adolescent pimples. It clears these skin irritants out of the blood. Then, pimples go! Eat 3 cakes a day, before meals—plain, or in a little water—until your skin is clear.

—clears the skin
by clearing skin irritants out of the blood

Copyright, 1936, Standard Brands Incorporated

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Figure 18 'I can't take a boy with that many pimples.'³²²

³²² Fleischmann's yeast advertisement from 1935 found in segment 'Acne Mantra' on Pinterest, available here: <https://uk.pinterest.com/sonalpandey/acne-mantra/>, Accessed 11 September 2019. In this advertisement, the protagonist tries to impress his love interest with his ability to purchase an automobile. According to Peter N. Stearns, the 'practice of dating began between 1910 and 1920, removing courtship from the home and the watchful eyes of parents. Respectable dating still involved assumptions that outright sexual activity would not occur and that young men would obey restraining orders of their conscientious dates'. In this advert the ability

Although the smart and enthusiastic ‘young Jack Smith’ has presumably impressed at interview, the boss is reluctant to give him the job on account of his being unable to ‘wish such a pimply face on the office’. The next window sees Jack in a car showroom apparently under pressure to buy the featured automobile. When he bemoans his inability to get a job, he does not get a chance to finish his sentence as his girlfriend, Connie, cuts in and proclaims ‘unless you get rid of those pimples, I bet!’ She then goes on to suggest Jack tries Fleischmann’s yeast like her ‘brother did’ and, in the last window of the story, a resolution is confirmed when a fresh faced and acne-free Jack rushes to pronounce ‘Connie! I’ve got that job! I was picked because I was clean-cut. No pimples this time. Now we can get that car.’ The phrase, ‘because I was clean-cut’, hints at the association between acne and moral or social failings.³²³

to purchase a car represents the courting couple with the utmost potential for achieving real independence. Peter N. Stearns, *Sexuality in World History* (London: Routledge, 2009), 98

³²³ According to Juliann Sivulka, the comic strip advertising technique ‘applied seemingly real people engaged in an extended conversation about the product. By the late 1930s, comic strip advertising sold everything from soap, food, and drugs to razors, fountain pens, and typewriters.’ Juliann Sivulka, *Soap, Sex, and Cigarettes: A Cultural History of American Advertising* (London: Wadsworth Publishing Co. Inc., 2011), 187.

NIX ON PARTIES
—with *my* crop of **PIMPLES!**

But there is hope for Bill!

DOGGONE IT! I DID WANT TO GO TO DOT'S BIRTHDAY PARTY TONIGHT! A FINE DIGHT TO BE!

SAY, WHAT'S EATING YOU? GOING TO DOT'S PARTY TONIGHT?

OF COURSE NOT, DAN. LOOK AT THESE LIFE-SIZED PIMPLES AND SEE WHY!!

NEXT MORNING

WHY, BILL, YOU OLD SILLY! DAN TOLD ME THE REAL REASON WHY YOU DIDN'T COME TO MY PARTY LAST NIGHT—AND ANOTHER TOLD ME TO TELL YOU TO EAT FLEISCHMANN'S YEAST!

I'LL BOCK DAN! BUT I GUESS TO BETTER TRY THAT YEAST

LATER

DOT'S MOTHER WAS SWELL TO TELL ME HOW TO GET RID OF THOSE FIERCE OLD BLOSSOMS!

NOW TO SHOW DOT

WHY, BILL—IT WORKED! NOT A PIMPLE LEFT! WE'LL HAVE TO HAVE ANOTHER PARTY—TO CELEBRATE

MY IDEA, TOO! DOT, YOU'RE WONDERFUL

Don't let Adolescent Pimples kill YOUR dates

DDURING the years following the beginning of adolescence—from about 13 to 25, or even longer—many young people have to fight pimples.

Important glands develop and final growth takes place during this time. This causes disturbances throughout the body. The skin becomes oversensitive. Waste poisons in the blood irritate this sensitive skin, making it break out in pimples.

Fleischmann's Yeast clears the skin irritants out of your blood. Then pimples go! Eat Fleischmann's Yeast 3 times a day, before meals—plain, or in a little water—until your skin clears.

clears the skin
by clearing skin irritants out of the blood

Copyright, 1936, Standard Brands Incorporated

Figure 19 'Nix on parties with my crop of PIMPLES!'³²⁴

³²⁴1936 Ad Fleischmann's Yeast Pimples Acne Treatment Comic Standard Brands available at periodpaper.com. This advert is available to purchase online and this particular snippet is said to be 'an original 1936 black and white print ad for Fleischmann's Yeast acne treatment that was made and sold by Standard Brands, Inc. of New York, NY'. To view this ad and other Fleischmann's acne yeast advertisements see: <https://www.periodpaper.com/products/1936-ad-fleischmanns-yeast-pimples-acne-treatment-comic-standard-brands-health-207574-yab2-148>, Accessed 28 September 2019.

"Hi there, PIMPLY FACE!"

But soon . . . they changed this ugly nickname

SEE, WHIZ - IT MUST BE THE WAY I'M LOOKING IN HIS MIRROR!

YOU BET, NEVER SAW SO MANY DIMPLES ON ONE 'MAY'!

NEXT DAY

"DAD, I HEARD THEM SAYING YOU. NOW WON'T YOU TRY FLEISCHMANN'S YEAST? IT ENDED MY PIMPLES!"

"AW, LET ME ALONE, CAN'T YOU?"

TWO WEEKS LATER

"DAD, I'VE BROUGHT YOU SOME FLEISCHMANN'S YEAST CAKES. PLEASE DO GIVE THEM - AND YOUR SIGN - A CHANCE!"

"OH, AW - SURE, DAD - ANYTHING TO MAKE YOU QUIT NAGGING ABOUT IT?"

FOR THE LOVE O' MURDER - IF IT ISN'T OLD 'DIMPPLY FACE' - IN DISGUISE!

SURE AS I'M BORN - WHAT HAPPENED?? HAVE TO START CALLING YOU 'HANDSOME' NOW!

Don't let adolescent pimples brand YOU with a hated nickname!

Between the ages of 13 and 25, important glands develop. This causes disturbances throughout the body. Waste poisons get into the blood and irritate the skin, making it break out in pimples.

But you can clear these skin irritants out of your blood - with Fleischmann's Yeast. Then the pimples disappear!

Eat 3 cakes a day, before meals, until your skin is entirely clear. Start today!

clears the skin
by clearing skin irritants out of the blood

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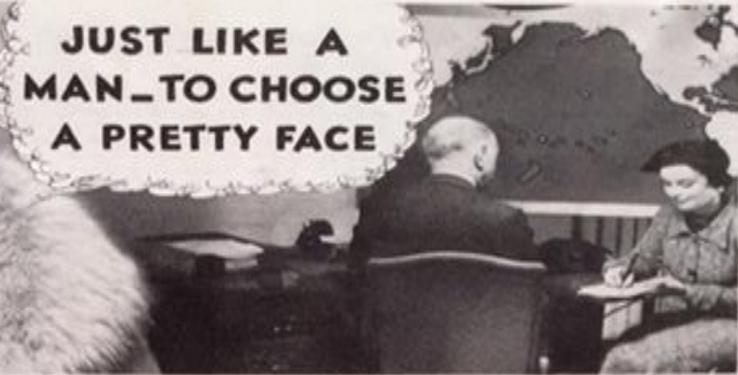
Figure 20 'Hi there, Pimply Face'.³²⁵

³²⁵ Ad Fleischmann's 'Yeast Pimples Treatment Advertisement' (October 1935). Available from <http://blog.modernmechanix.com/hi-there-pimply-face/>. Accessed 10 June 2020.

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**JUST LIKE A
MAN TO CHOOSE
A PRETTY FACE**



Yet in her heart she knew her bad skin was no asset for any job

WISH MY SKIN WAS CLEAR LIKE HERS - BUT THIS IS NO BEAUTY CONTEST - BET I'M TWICE AS GOOD AT THE WORK.



I WOULD HAVE HIRED THAT BLONDE GIRL JUST NOW, FINE REFERENCES - SOUNDS CAPABLE - BUT HER SKIN!



NO LUCK TODAY EITHER - IF I THOUGHT IT COULD BE THESE PIMPLES -

WHY NOT TRY FLEISCHMANN'S YEAST PIMPLES, LIKE I'M ALWAYS TELLING YOU - THEY SAY IT'S DEATH ON PIMPLES.



2 WEEKS LATER.

OH, I'D LOVE TO GO! CALL ME AT THE OFFICE TOMORROW AT 5:00, YES, I'M WORKING NOW!

NOW THOSE UGLY HICKIES ARE GONE!



Don't let adolescent pimples keep YOU! out of a job!

Between the ages 13 and 25, important glands develop. This causes disturbances throughout the body. The skin becomes over-sensitive. Waste poisons in the blood irritate this sensitive skin - and pimples are the result.

For the treatment of these adolescent pimples, doctors prescribe Fleischmann's Yeast. This fresh yeast clears the blood of the skin irritants that cause pimples.

Eat Fleischmann's Yeast 3 times a day, before meals, until your skin is entirely clear.



—clears the skin

by clearing skin irritants out of the blood

Copyright, 1935, Standard Brands Incorporated

Figure 21 'Just like a man to choose a pretty face'.³²⁶

³²⁶ Ad Fleischmann's Yeast Pimples Treatment Advertisement, *Photoplay Magazine* (January 1936).



Figure 22 Let yeast clear those pimples away!³²⁷

Other adverts (as shown in Figures 19, 20 and 21) show a young man unable to attend a party out of embarrassment at his acne marked face, four male schoolboys teasing their classmate and a female acne sufferer rejected from a job and remarking ‘just like a man to choose a pretty face’.³²⁸ The themes employed in Fleischmann’s advertising campaign effectively revolved around issues such as the social isolation, poor employment opportunities and the romantic difficulties faced by acne sufferers. During the period, a common marketing strategy involved paying doctors to endorse a range of products. In their analysis of tobacco manufacturers’ advertising campaigns between 1930 and 1953, for example, historians Martha Gardner and Allan M. Brandt have shown that firms recruited physicians ‘as crucial allies in the ongoing

³²⁷ ‘Fleischmann's Yeast’, *New York World Telegraph* (21 September 1931).

³²⁸ Ad Fleischmann’s *Yeast Pimples Treatment Advertisement* (October 1935).

process of marketing tobacco'.³²⁹ Furthermore, the historians have suggested that 'these advertisements are a powerful reminder of the cultural authority physicians and medicine held in American society during the mid-twentieth century, and the manner in which tobacco executives aligned their product with that authority'.³³⁰ Like tobacco manufacturers, Walter Thompson Company also paid doctors to endorse Fleischmann's yeast. Such marketing strategies, however, were being monitored. The American Medical Association criticised American doctors for providing endorsements of Fleischmann's yeast because it inferred a certain degree of self-diagnosis on the part of the patient. The treatment was also unproven. Walter Thompson Company overcame this obstacle, however, by recruiting European physicians.³³¹ In the advertisement featuring Austrian physician, Dr Karl Glaessner (Figure 22), acne sufferers were implored to 'let yeast clear those pimples away'. Moreover, as in their comic strip advertisements, there was a strong inclination toward playing up the social, economic and psychological ramifications of leaving acne untreated:

Have you ever known a really successful man, a really happy woman, with bad skin? It is a terrific handicap....an unforgivable social offence. And yet in the experience of world famous medical experts, most skin troubles can be cleared up very easily... If you attack their cause!³³²

Fleischmann's focus on teenagers paralleled the emergence of the field of endocrinology in the late nineteenth century, which stimulated a flurry of studies examining the role human hormones played in the causation of physical and mental illnesses. Accordingly, it was not long until medical professionals turned their attention to investigating the link between acne and the

³²⁹ Martha Gardner and Allan M. Brandt, "'The Doctors' Choice Is America's Choice" The Physician in US Cigarette Advertisements, 1930–1953', *Am J Public Health* 96 (2006), 222–232. For further examples of pharmaceutical companies recruiting physicians to endorse their product see: Jeremy A. Greene and David Herzberg, 'Hidden in plain sight: marketing prescription drugs to consumers in the twentieth century', *Am J Public Health* 100 (2010), 793–803.

³³⁰ Ibid.

³³¹ Roland Marchand, *Advertising the American Dream: Making Way for Modernity, 1920–1940* (Berkeley: University of California Press, 1992), 16.

³³² Fleischmann's Yeast, *New York World Telegraph* (21 September 1931). This text is included within the advert.

endocrine system. In 1921, for example, American physician Lester Hollander suggested ‘that the underlying etiologic factor in acne is somewhere in the domain of the endocrine glands – probably the gonads’.³³³ In 1931, Swiss dermatologist Bruno Bloch questioned why acne was ‘very rarely observed in small children before maturity, and rarely or hardly ever met with in persons over thirty’. Referring to the previous work of authors such as Hollander, Bloch claimed many in the dermatological profession found it difficult to comprehend that the normal physiological process of puberty could lead to a ‘pathological manifestation’ like acne. While researchers offered countless explanations for the causal relationship between the condition and puberty, such as disturbances in the thyroid glands, ‘disturbances of menstruation’ or a problem with the functioning of the gonads, Bloch argued that said hypotheses were without foundation and did not substantiate why acne seemed to erupt during adolescence. As a result of such unproven theories, Bloch opted to study over 2000 girls and boys aged between six and nineteen years for signs of acne. Finding comedones and seborrhoea (considered the early stage of the condition) in over seventy per cent of the 4000 patients he examined, Bloch argued that the ‘appearance and development of the lesions of acne paralleled the development of the signs of puberty, i.e., the growth of axillary and pubic hair, the appearance of the secondary sexual characteristics and the beginning of the menses in girls’. Widely respected as a dermatologist and meticulous in his research, Bloch’s study was thus said to have proven, once and for all, that acne was indeed nothing more than a normal reaction to the physiological changes taking place during puberty.³³⁴

Throughout the early twentieth century, skin specialists also increasingly identified inadequate nutrition as a possible cause of acne. Dermatologists like Charles Lerner – Instructor in

³³³ Lester Hollander, ‘The Role of the Endocrine Glands in the Etiology and treatment of Acne’, *Arch Derm Syphilol* 3 (1921), 593-597.

³³⁴ Bloch, ‘Metabolism’, 51-87; Lee McCarthy, ‘Failure of Therapy with Glandular Preparations in Acne Vulgaris’, *Arch Derm Syphilol* 35 (1937), 211-225.

Dermatology and Syphilology at the New York Post-Graduate Medical School of Columbia University – spoke of good nutrition being crucial to acne sufferers’ hope of modifying the severity of their condition:

Most clinicians of the present day regard the constitution of a person no longer as fixed and unalterable but as susceptible to modification by a variety of exogenous influences, of which nutrition is one. It seemed possible, therefore, that the nutritional treatment of a disease like acne vulgaris might furnish instructive points of view.³³⁵

The lack of knowledge concerning the worth of dietary influences in treating diseases of the skin, however, was also a source of anxiety for some dermatologists, as outlined by Kansas City based dermatologist, Richard L. Sutton:

No one appreciates the lack of knowledge regarding diet as a therapeutic aid in diseases of the skin more than I do, and few dermatologists have had less confidence in this method of treatment. I suspect that much of the lack of faith is due to the fact that in the past, fancies and hobbies often have usurped the place of truth, and, as a dietitian recently has intimated, ‘The instructions given the patient with skin disease often are based on tradition rather than on reason’.³³⁶

Sutton’s concern over his and his colleagues’ lack of faith in advocating dietary changes for the treatment of skin complaints encouraged him to examine whether the adoption of a liver diet had potential clinical benefits for both acne and furunculosis, which is defined as ‘a deep infection of the hair follicle leading to abscess formation with accumulation of pus and necrotic tissue’.³³⁷ Recalling a conversation with pathologist Professor Aldred Scott Warthin (considered by many to be the ‘father of cancer genetics’), Sutton claimed the latter had encouraged him to consider the use of liver as a therapeutic aid after he had recorded

³³⁵ Charles Lerner, ‘Nutritional Treatment for Acne Vulgaris’, *Arch Derm Syphilol* 31 (1935), 528.

³³⁶ Richard L. Sutton, ‘Liver Diet in Acne Vulgaris and in Furunculosis’, *Arch Derm Syphilol* 18 (1928), 887-890.

³³⁷ Kristina Sophie Ibler and Charles B. Kromann, ‘Recurrent Furunculosis – Challenges and Management: A Review’, *Clin Cosmet Investig Dermatol* 7 (2014), 59.

noteworthy results using the meat to treat ‘certain chronic streptococcic disorders’.³³⁸ After one of Warthin’s patients suffering from a ‘severe case of streptococcic infection’ had ‘failed to respond to ‘ordinary measures’, he tried feeding the patient with liver and was stunned at the rate of his recovery. In Sutton’s trial, twenty-seven private patients were prescribed liver therapy. Although he was concerned that his sample size was a relatively small number, the beneficial results obtained by many of his patients convinced Sutton to share his results: ‘the most satisfactory results’ were obtained by sufferers who presented with ‘deep-seated lesions of an indolent type’, common in patients ‘whose skins are pale, moist and flabby, and lacking in both tonicity and colour’.³³⁹ The reasons for such improvements, however, were unclear.

While the addition of foods such as liver to the diet had convinced some physicians that dietary therapy could play a key therapeutic role, others believed that avoiding certain foods was crucial. For instance, Chicago based physician Dr Cleveland White described a thirty-eight-year-old woman who had been treated unsuccessfully for seventeen years by a number of different dermatologists using a range of treatments, including x-ray therapy.³⁴⁰ Arguing that ‘a food sensitization might be the cause of such an eruption’, White employed a range of diagnostic tests including an elimination diet. Due to the stubbornness of the case, White decided to adopt the elimination diet developed by Californian allergist Albert H. Rowe in the late 1920s. Rowe’s elimination diet consisted of having the patient follow a restrictive diet, in which suspected allergenic foods would be added over the subsequent weeks and months with the aim of identifying the offending foodstuff.³⁴¹

³³⁸ For more on the life of Aldred Scott Warthin, see: Vineeth G Nair, ‘Aldred Scott Warthin: Pathologist and teacher par excellence’, *Med Hist* 5 (2017), 123-125.

³³⁹ Sutton, ‘Liver Diet in Acne Vulgaris and in Furunculosis’, 1928.

³⁴⁰ Cleveland White, ‘Food Sensitization Dermatoses: Especially Consideration of the Primary Type of Acneform Distribution. Preliminary Report’, *J Allergy Clin Immunol* 4 (1933), 151-153.

³⁴¹ Smith, *Another Person’s Poison*, 75.

Rowe had discovered the link between food sensitivities and acne unexpectedly. Whilst employing one of his elimination diets to treat a woman suffering from canker sores, he found that it also cleared his patient's obstinate case of severe and long-standing facial acne. In the case of White's patient, the Rowe diet revealed the patient's marked sensitivity to eggs and wheat. Having strictly avoided these foods – as well as peaches – the patient's face 'assumed a more normal appearance than it had since the eruption started', as shown in Figure 26. Along with using Rowe's elimination diet, White also used a 'basic nonallergic diet consisting of foods such as coffee, tea, carrots, and peppermint candy' (amongst others).³⁴² If, after having ingested the above-mentioned foods the acne sufferers reported no new lesions, then one suspected food could be added to their diet per day in the hope of detecting the offending food.

³⁴² White, 'Food Sensitization Dermatoses: Especially Consideration of the Primary Type of Acneform Distribution', 152.



Fig. 1.

Figure 23 'Food Sensitization Dermatoses'.³⁴³

Although some physicians were sceptical of the link between acne and diet, restrictive diets were often prescribed nonetheless. Patients were also drawn to such dietary theories. In 1938, for example, Leeds University's Dr Francis Findlay Hellier published an article in *The Lancet* outlining the value of diet in the treatment of skin diseases. Speaking of his significant experience as a dermatologist, Hellier stated that the two most frequent questions asked by his patients were: What must I eat, and what must I not eat? Hellier explained how dermatologists usually found themselves under enormous pressure to prescribe special dietary advice which would curtail the severity of patients' cutaneous ailments. In the instances where he failed to recommend dietary change, Hellier spoke of 'there always being numerous friends or relations

³⁴³ Ibid.

ready to oblige with advice'.³⁴⁴ While the requirement to restrict certain foods from the diet was sometimes obvious – as in the example of a patient suffering from urticaria every time he/she eats a strawberry – the offending allergen was not always clear and often required further investigation by the dermatologist.³⁴⁵

In 1940, American dermatologist Frank E. Cormia attempted to identify the most common offenders by testing thirty-two of his acne patients for food sensitivities. While half of the patients had a marked reaction to twenty-four different foods, chocolate was found to be the food most likely to cause a reaction. Twelve of these sixteen patients reported that their skin worsened following ingestion of chocolate, with seven reacting positively when subsequent tests were carried out analysing their reaction after consuming chocolate. In addition, four sufferers refused to take the test given the severity of their previous reactions, with most suffering a marked flare up of their skin in the days following ingestion of chocolate.³⁴⁶ Of all of the foods associated with acne, chocolate has arguably been the most commonly implicated. In 1950, for example, Canadian dermatologist John Frederick Burgess claimed his 'clinical experience has borne out the fact that most cases of acne are aggravated by chocolate, nut oils and perhaps pork fat'. In Burgess's view these foods triggered pro-inflammatory markers in the body which resulted in skin eruptions.³⁴⁷ Some eleven years later, the perceived clinical benefits brought by limiting chocolate consumption and, indeed, sugar were tested by world-renowned dermatologist Theodore Conbleet, who was imperative in helping found both the Canadian Dermatological Association and the Montreal Dermatological Association.³⁴⁸ Dividing fifty-two patients with acne into two separate groups, Conbleet permitted one of the

³⁴⁴ Francis Findlay Hellier, 'Diet and Internal Treatment in Skin Diseases', *Lancet* 231 (1938), 1037-1041.

³⁴⁵ *Ibid.*

³⁴⁶ Frank E. Cormia, 'Food Sensitivity as a Factor in the Aetiology of Acne Vulgaris' *J Allergy* 12 (1940), 34-41.

³⁴⁷ John Frederick Burgess, 'Acne Vulgaris', *CMAJ* 62 (1950), 48-51.

³⁴⁸ Joseph Hanaway and John H. Burgess, *The General: A History of the Montreal General Hospital* (Montreal: McGill-Queen's University Press, 2016), 126.

groups to have sugar as often as desired, whilst the other group's sugar intake was severely restricted. Following cessation of the study, there was found to be absolutely 'no difference in their clinical results' – leading Conblett to claim that 'more positive evidence was needed' to justify dietary treatment being recommended for acne.³⁴⁹

In 1969, dermatologists James Fulton, Gerd Plewig and Albert Kligman similarly decided to 'test the widespread idea that chocolate is harmful in instances of acne vulgaris', arguing that it was a rarity to find a general practitioner or dermatologist who did not believe chocolate served to aggravate the condition. In order to test the theory, sixty-five moderate acne sufferers agreed to take part in the study – thirty adolescents attending the acne clinic at University Hospital Philadelphia and thirty-five adult male prisoner test subjects.³⁵⁰ With help from the Chocolate Manufacturers Association of the United States, the researchers were able to conduct a blind study, employing two chocolate bars, a control bar (A) and an 'enriched chocolate bar' (B). During the trial, the researchers made sure the test subjects consumed extremely high quantities of chocolate daily. The enriched chocolate bar contained some ten times the normal levels of chocolate found in an ordinary bar, whilst the placebo bar contained twenty-eight per cent vegetable fat to 'mimic the lipids contained in chocolate liquor and cocoa butter. After ingestion of the 'bittersweet chocolate bar', forty-six of the sixty-five subjects' acne remained completely the same as before the test, ten improved, and only nine's skin worsened. When the control bar was introduced, fifty-three acne sufferers' skin remained the same, five had improved skin and only seven suffered a marked flare up. The dermatologists concluded:

The key finding in this study can be reduced to a simple statement: ingestion of high amounts of chocolate did not materially affect the course of acne vulgaris or the output or composition of sebum. Actually, since the bittersweet bars contain about one third fat, we may also infer

³⁴⁹ Theodore Conblett, 'Should We Limit Sugar in Acne?', *Arch Dermatol* 83 (1961), 968-969.

³⁵⁰ For more on the use of prisoners as tests subject see: Allen Hornblum, Judith Newman and Gregory Dober, *Against Their Will: The Secret History of Medical Experimentation on Children in Cold War America* (London: Palgrave Macmillan, 2013).

that a diet rich in vegetable fat probably does not alter sebaceous secretion.³⁵¹

While admitting the existing literature on the ‘effect of dietary fats and carbohydrates on acne and sebaceous secretion is singularly confusing, contradictory, and controversial’, they conceded that it would take much more than their study to convince medical professionals and acne sufferers of the inherent benefits associated with following a healthy diet. The belief that some foodstuffs negatively impacted skin diseases was ‘ancient and deeply rooted’.³⁵²

Physicians also prescribed a range of vitamins for patients suffering from acne. Historian Ian Mosby claims that the ‘rapid discovery, isolation, and synthesis of vitamins during this period – including vitamins A, B1, B2, B3, B6, C, D, AND E – transformed the science of nutrition and facilitated the development of new and highly effective treatments for a range of serious illnesses’.³⁵³ In the 1930s and 1940s, for example, several studies investigated the therapeutic potential of Vitamin D for the treatment of acne. In one study, physicians Abraham Doktorsky and Stephen Platt noted the improvement in acne patients’ skin following treatment from light therapy and suggested that their temporary relief was due to the ‘activation of ergosterol in the skin’. Wishing to investigate their theory further, the doctors decided to take Vitamin D supplements orally in the form of Mead’s viosterol liquid drops ten times per day, doubling their dose to twenty times per day the following week. After continuing with the treatment regime for one month, the physicians noticed that eighty per cent of their acne pustules had all but disappeared and called for larger studies to be undertaken immediately.³⁵⁴ Answering

³⁵¹ James Fulton, Gerd Plewig and Albert Kligman, ‘Effect of Chocolate on Acne Vulgaris’, *JAMA* 210 (1969), 11-19.

³⁵² *Ibid.*

³⁵³ Ian Mosby, *Food Will Win the War: The Politics, Culture, and Science of Food on Canada’s Home Front* (London: UBC Press, 2014), 24.

³⁵⁴ Abraham Doktorsky and Stephen. S. Platt, ‘Vitamin D in the Treatment of Acne Vulgaris’, *JAMA* 101 (1933), 275.

Doktorsky and Plat's call, American physician Merlin Maynard presented his own positive results from using Vitamin D therapy. Although Maynard admitted that 'the percentage of cures and marked improvement is still low', he encouraged his colleagues to continue with the treatment plan until they reached an optimal dose, claiming that poor results were ultimately due to inadequate dosage. While Maynard admitted that Vitamin D was an 'imperfect weapon for slaying the disfiguring disease', he claimed that his patients reported feeling and looking healthier during and after treatment.³⁵⁵ In the discussion segment of Maynard's paper, though, other physicians expressed frustration at the therapy's lack of efficacy. For example, Henry Templeton claimed that he abandoned Vitamin D therapy after observing no real improvement in his patients. Another participant reminded his colleagues that the 'most satisfactory results in medical treatment are 'those developed for conditions whose etiology is known' arguing that the medical profession's own 'knowledge of the etiologic background of acne leaves a lot to be desired'.³⁵⁶ In other words, until acne's causes were known, effective treatments would prove to be elusive.³⁵⁷ One of the results of such difficulties was that physicians expanded their search for potential causes, eventually turning to psychological and psychosomatic factors.

Psychological Factors in Acne

In 1920, American dermatologist William Allen Pusey presented a paper entitled 'A Borderline Case of Neurotic Excoriations' at the forty-third Annual Meeting of the American Dermatological Association. Pusey claimed to have treated several patients who 'had a strong impulse to produce damage to the skin'.³⁵⁸ Whilst Pusey acknowledged that other prominent

³⁵⁵ Merlin T. R. Maynard, 'Vitamin D in Acne: A Comparison with X-Ray Treatment', *Cal West Med* 49 (1938), 127–132.

³⁵⁶ Ibid.

³⁵⁷ Dr Carroll S. Wright claimed that in the aftermath of studies such as Maynard's there was huge demand by sufferers from psoriasis and acne for access to large doses of viosterol. Carroll S. Wright, 'Vitamin D Therapy in Dermatology', *Arch Derm Syphilol* 43 (1941), 145-154.

³⁵⁸ William Allen Pusey, 'A Borderline Case of Neurotic Excoriations', paper presented at the 43rd Annual Meeting of the American Dermatological Association (22-24 April 1920).

dermatologists like Erasmus Wilson and Tilbury Fox had presented their own cases concerning the problem of neurotic excoriations, he felt patients' motives lay in 'a desire for morbid sympathy or escape from some unpleasant duty'. In Pusey's view, it was 'an uncontrollable and vicious habit'. During the discussion segment following Pusey's paper, dermatologist Martin Engman recalled a case in which a young woman with acne 'obtained sexual gratification from picking her skin' – a habit which ultimately worsened her condition.

In the 1920s and 1930s, Hungarian-American psychoanalyst Franz Alexander and American psychiatrist Helen Flanders Dunbar pioneered the concept of psychosomatic medicine, founding the American Psychosomatic Society in 1939. According to historian Mark Jackson, Alexander believed conditions such as 'hypertension, rheumatoid arthritis, peptic ulcers, thyrotoxicosis, asthma, ulcerative colitis and neurodermatitis' to be a result of 'chronic emotional disturbances'.³⁵⁹ Through a series of publications investigating the link between emotions and their physical impact on the body, Dunbar influenced a range of medical specialists, including dermatologists. Franz Alexander, described as 'the father of psychosomatic medicine', became director of the Chicago Institute of Psychoanalysis in 1932 and was responsible for training a host of students about the increasing number of psychosomatic diseases.³⁶⁰

There is also evidence to suggest that psychiatrists were interested in the link between skin diseases like acne and poor mental health. In 1937, for example, Dr Joseph Wortis, a research

³⁵⁹ Mark Jackson, *The Age of Stress: Science and the Search for Stability* (Oxford: Oxford University Press, 2013), 89. For further reading on the origins and impact of psychosomatic medicine see: Matthew Smith, 'Food Allergy, Mental Illness and Stress Since 1945' in Mark Jackson (ed.), *Stress in Post-War Britain, 1945-85* (New York: Routledge, 2015); Edward Shorter, *From Paralysis to Fatigue: A History of Psychosomatic Illness in the Modern Era* (New York: The Free Press, 1991).

³⁶⁰ E. S. Schmidt, 'The Berlin Tradition in Chicago: Franz Alexander and the Chicago Institute for Psychoanalysis', *Psychoanal Hist* 12 (2010), 69-83.

fellow in psychiatry at the Bellevue Psychiatric Hospital in New York, noted high levels of acne amongst patients being treated for schizophrenia. In one case, Wortis discussed a seventeen-year-old boy being treated for psychotic episodes at Bellevue who suffered so badly from acne that ‘many of his complaints and delusions involved his skin condition, and much of his tenseness and restlessness found expression in the constant fingering of the lesions’. Furthermore, amongst a group of thirty-five schizophrenic patients being treated at the hospital, Wortis noted that almost one sixth of the cohort suffered from severe acne and passed on his observations to dermatologists for further consideration.³⁶¹ Theories linking the onset of various skin diseases to psychological illnesses became very common during the mid-twentieth century.³⁶² In both British and North American psychology journals, articles discussed the mind’s ability to cause a range of skin diseases like acne and psoriasis – as illustrated by the following extract published in the *British Journal of Dermatology and Syphilis* in 1938:

From the psychological standpoint the skin is first of all an organ of emotional expression – it reacts in its component parts like other viscera to feelings of anger, shame and fear. It is conceivable also that the skin may not only reflect the ordinary psychophysiological processes consequent upon emotion, but may be used as a medium of symbolic (i.e conceptually influenced) emotional expression, as in the recorded cases of hysterical stigmata.³⁶³

In 1938, dermatologists like Eugene Traugott Bernstein argued that the ‘post war period with its anxieties, its numerous financial problems and threats to security, seem to have been associated with an increasing incidence of skin disorders that do not appear to fall within well-recognised categories’.³⁶⁴ Although there were continuous calls for dermatologists and

³⁶¹ Joseph Wortis, ‘Common Acne and Insulin Hypoglycaemia’, *JAMA* 108 (1937), 971.

³⁶² A fascinating paper entitled ‘The Itchy Patient’ appeared in the *BMJ* in 1946 arguing that psychological factors played a key role in the outbreak of psychosomatic skin diseases. The authors claimed that in the event of a near death experience, like a ‘near miss by a bomb, or worries over finances, it was very possible that the patient would experience an attack of eczema brought on by stress’. Henry MacCormac, Paul Harmer Sandifer and Anthony Michael Jelliffe, ‘The Itchy Patient’, *BMJ* 2 (1946), 48-49.

³⁶³ R. D. Gillespie, ‘Psychological Aspects of Skin Disease’, *Br J Derm Syph* 50 (1938), 1.

³⁶⁴ Eugene Traugott Bernstein, ‘The Emotional Factors in Skin Diseases’, *J Nerv Ment Dis* 87 (1938), 1-13.

psychologists to acknowledge the possibility that certain skin conditions did indeed have a psychosomatic cause, physicians such as John H. Stokes and Herman Beerman reminded their colleagues that ‘dermatologists have by no means accepted the sudden flood of emphasis on psychosomatic influences as they conceive them, in skin aetiology’.³⁶⁵ While the link between the psyche and the onset of skin disorders interested both dermatologists and psychiatrists, it was also believed that having a visible skin affliction like acne could, in contrast, lead to severe emotional disturbances in patients:

Young men and particularly young women who are afflicted with acne frequently suffer from attacks of melancholia, depression, and inferiority complexes. They are tremendously handicapped and may carry the scars of emotional disturbances throughout life.³⁶⁶

The above extract was included in a 1935 thesis submitted to the University of Nebraska by a final year medical student, Glenn D. Hutchinson. Hutchinson emphasised how acne’s long-lasting psychological impact had the potential to emotionally scar sufferers for life. Further studies suggested that suffering from acne had serious social repercussions for patients due to the condition’s tendency to lead to social withdrawal. Some physicians, like American doctor Howard Pirie, warned that if acne persisted in women past the age of thirty-five, it was very possible she would go on and develop an ‘inferiority complex’.³⁶⁷ In his paper, Pirie claimed that suffering from acne tended to make older women severely depressed and more likely to avoid going outside due to their unattractive appearance. Moreover, Pirie also warned that as the condition worsened some women entertained thoughts of suicide as a result of their social isolation. Pirie explained this by presenting the case of thirty-eight-year-old ‘Miss B’, who had tried every potential treatment with little success, leaving her feeling miserable, lacking self-

³⁶⁵ John H Stokes and Herman Beerman, ‘Psychosomatic Correlations in Allergic Conditions: A Review of Problems and Literature’, *Psychosom Med* 2 (1940), 438-458.

³⁶⁶ Glenn D. Hutchison, ‘Etiology and Treatment of Acne Vulgaris.’ (1935), MD Theses, University of Nebraska, Paper 393. Available here: <https://pdfs.semanticscholar.org/9eb6/767c180f530a44acb1aef8a45e4696f80f5a.pdf> Accessed 10 June 2019.

³⁶⁷ Howard Pirie, ‘Chronic Acne Vulgaris (Indurata) in Middle-Aged Women’, *CMAJ* 39 (1938), 171-172.

confidence, and fearful of losing her job – an example telling of the pressures women were under to achieve a certain beauty ideal within the workplace. In 1947, Anthony C. Cipollaro – Emeritus Clinical Professor of Dermatology at Cornell University Medical College – claimed that health resorts may benefit the depressed acne patient:

The general health of the acne patient is usually poor and the patients are often discouraged and depressed because of the disfigurement. Those with acne conglobata may do better at a health resort under a regulated regime including graduated exercise, daily exposure to ultraviolet rays, midday rest in bed, properly controlled diet and internal medicaments. The quiet atmosphere, the medicated baths and an understanding personnel do much for the depressed and morose patient.³⁶⁸

While some skin specialists believed that health resorts could help alleviate the severity of some patients' acne, others felt psychoanalysis could also play an important role. Throughout the 1940s, psychoanalysis became the leading speciality within American psychiatry. Nathan Hale has attributed the rapid growth of psychoanalysis in the post-war era to the influence of a 'younger generation of psychiatrists many of whom had served in World War Two'.³⁶⁹ According to Hale, this new generation of psychiatrists believed that the 'major causes of nervous and possibly of mental illness were psychological and interpersonal', with psychotherapy being their treatment of choice.³⁷⁰ Trained in psychoanalytic institutes they facilitated the spread of psychoanalytic psychiatry by gaining prominent positions in places such as hospitals, clinics, and university departments of psychiatry. It was used by health professionals to understand how human beings interacted, why they behaved in certain ways

³⁶⁸ Anthony C. Cipollaro, 'The Place of Health Resort Therapy in Dermatologic Disorders', *JAMA* 134 (1947), 249-253. For more information, on Anthony C. Cipollaro's life see: 'Anthony Cipollaro, 74, Dies; Skin-Disease Therapy Expert', *New York Times* (8 July 1975), <https://www.nytimes.com/1975/07/08/archives/dr-anthony-cipollaro-74-dies-skindisease-therapy-expert.html>, Accessed 11 October 2018. According to NHS guidelines, graduated exercise is 'a structured exercise programme that aims to gradually increase how long you can carry out a physical activity'. NHS, <https://www.nhs.uk/conditions/chronic-fatigue-syndrome-cfs/treatment/>, Accessed 10 June 2019.

³⁶⁹ Nathan Hale, *The Rise and Crisis of Psychoanalysis in the United States: Freud and the Americans, 1917-1985* (Oxford: Oxford University Press, 1995), 245.

³⁷⁰ *Ibid.*

and to gain better knowledge of certain patients' personality traits.³⁷¹ In 1940, for instance, American psychiatrist Dr Louis Montgomery published: 'Psychoanalysis of a Case of Acne Vulgaris' in the *International Journal of Psycho-Analysis*. Gathered from 603 hours of analysis, over a thirty-nine-month period with a twenty-four-year-old patient called Stella (a pseudonym), Montgomery concluded that his patient's acne was undoubtedly 'psychogenically determined'. While the patient had sought Dr Montgomery's help for overcoming other neurotic symptoms she was displaying, it was quickly determined that her initial outbreak of acne was as a result of her being dumped by her ex-boyfriend when she was eighteen. Devoting a significant amount of money and time to curing her skin complaint, Stella believed a cure could be achieved by having sexual intercourse with different partners. In the following months, Stella, who was married, thus became markedly promiscuous. In her encounters, she admitted to being aggressive – a behaviour Dr Montgomery attributed to her wrestling with 'homosexual tendencies' and pressure from the feeling of 'needing a man'. Despite feeling guilty about her promiscuity, Stella was comforted by the feeling that sleeping around was a necessary evil if she had ambitions of treating her acne.

Within the article, it was disclosed that Stella had a severe hatred of her mother as the latter's condescending remarks made her feel that 'her face and genitalia were dirty'. As a result, Dr Montgomery felt 'dirt, genitals, face and disease became connected'. In the psychoanalyst's view, squeezing her spots consequently became intimately connected with squeezing her male partners' penises. Prior to meeting Dr Montgomery, she had also been diagnosed with a phobia of dogs, as well as symptoms of depression. These depressive episodes were often marked by their tendency to induce severe vomiting spells which were often accompanied by breast pain for which health professionals could find no organic cause. Frequently terror stricken and 'rigid

³⁷¹ Louis Montgomery, 'Psychoanalysis of a Case of Acne Vulgaris', *Psychoanal Rev* 26 (1939), 155–177.

with fear’, her husband, who was a doctor, finally decided to enrol the help of a psychoanalyst with the hope of ascertaining what really was causing her depressive symptoms. During the course of psychoanalysis, Dr Montgomery noticed that ‘during periods of positive transference her face would break out to such an extent that she was actually hideously disfigured’. On the other hand, during the episodes in which she displayed open hostility towards the analyst, her acne immediately cleared up. For Montgomery, the reason for this was clear: in the times when Stella wished for a male partner to love her, ‘unconscious defensive measures had to be invoked’. During the periods when she was relaxed she thus had no need to invoke such defensive measures. In summation, Dr Montgomery felt ‘the meaning of the acne symptom was a double one’:

A wish significance and a punishment significance both found expression in it. We might formulate it as follows: ‘I want father, I want a penis. I am father, I have a penis. I am a man. As punishment my genitals are dirty, my face is dirty, no man loves me.’³⁷²

Concluding his paper, Dr Montgomery was happy to report that psychoanalysis had led to a complete cure of her acne some nineteenth months after her final sessions.

The theory that acne was potentially caused by psychogenic factors captured the attention of other well-respected dermatologists in both Britain and the US. For example, well-respected English dermatologist Eric Lipman Cohen was encouraged to test the hypothesis in a 1945 paper published in the *British Journal of Dermatology*. Dr Cohen was recognised for having an almost ‘encyclopaedic knowledge’ of the literature on acne. Not only was acne vulgaris his specialist subject, but he also had significant clinical experience working with acne sufferers at St Bartholomew’s Hospital, London, in 1936.³⁷³ During his investigations, ninety recovering

³⁷² Ibid.

³⁷³ ‘Eric Lipman Cohen Obituary’, *BMJ* 299 (1989), 789.

members of the British army were asked to do the mosaic test (a test designed to ‘examine an individual’s problem solving and cognitive abilities’) whilst staying as in-patients in hospital.³⁷⁴ Sixty of the group were classed as suffering from clinical acne and were treated in the dermatological wing of the hospital. In order to ensure fair and accurate results were recorded, Cohen recruited thirty controls from the orthopaedic wards. In picking potential volunteers, the dermatologist considered it essential that the control group were not ‘suffering from a disease in which there might be important psychogenic factors’.³⁷⁵

The results were sent to Margaret Lowenfield, a ‘pioneer of child psychotherapy’ and a qualified mathematician for analysis, who was quoted as saying: ‘there are no patterns of pathognomonic of mental defect in this series’ with the latter unable to find any discernible difference in personality between the two groups.³⁷⁶ She did, however, believe that the majority of the subjects analysed were of low intelligence. Fifty of the group studied, all of whom were suffering from clinical acne, were interviewed in order to gather further background information. Of this group, twenty-nine were men aged between nineteen and forty, whereas twenty-one were women aged between nineteen and twenty-six. Whilst Cohen did not consider acne to be solely caused by a fault in the psyche, he did uncover ‘possibly relevant psychogenic manifestations’. For example, it was found that five of the male acne sufferers described themselves as ‘emotional’, ‘nervous’, or the ‘worrying type’, whilst two claimed to have been unhappy in their occupation at the onset of acne. Of the twenty-one women interviewed, twelve were found to have some form of psychogenic problem which led to Cohen remarking: ‘the strong clinical impression remains that women in their thirties with acne are neurotic’. There was no demonstrable difference between the group of sixty acne sufferers and thirty controls

³⁷⁴ <https://psychologydictionary.org/mosaic-test/>, Accessed 28 July 2018.

³⁷⁵ Eric Lipman Cohen, ‘Psychogenic Factors In Acne’, *BMJ* 57 (1945), 48-57.

³⁷⁶ Elizabeth Burford, *Gravity and the Creation of Self: An Exploration of Self Representations Using Spatial Concepts* (London: Jessica Kingsley Publishers, 1998), 10.

which pointed towards acne having a purely somatic cause. Nevertheless, analysis of the acne sufferers' sleep patterns was 'suggestive of a high incidence of neurosis among them'.³⁷⁷ In a follow up paper investigating the correlation between sleeping patterns and the onset of acne, Cohen questioned five hundred female acne sufferers and forty-eight male sufferers about their sleep. Despite Cohen finding 'no correlation ... between the length of sleep and the incidence of acne in a group of five hundred women', the high levels of acne amongst those questioned who reported awaking in the morning unrefreshed and sluggish were believed to be 'suggestive of a psychogenic factor in acne'. Moreover, amongst the women who attested to having vivid dreams every time they slept, acne was significantly higher – another finding which led Cohen to believe that, in some people, acne had a psychological origin.³⁷⁸

In the mid twentieth century other dermatologists and psychiatrists tested the psychosomatic aspects of acne. In 1951, for example, consultant psychiatrist in the Skin Department at St Bartholomew's Hospital, London, Dr Eric Wittkower, enrolled sixty-four patients with acne in a psychosomatic study in order to determine a correlation between emotional disturbances and the onset of acne. In the first instance, he found twenty-six of his patients (fourteen men, twelve women) to have 'rigid personalities' as a result of them growing up in a 'repressive, puritanical, Victorian atmosphere'.³⁷⁹ The male acne sufferers in particular attested to being in constant fear of upsetting their father. Within the household, sexual matters were never discussed, which left both the male and female patients curious. The majority of the time, the study subjects admitted to being unable to relax amid the high standards expected of them. In another fourteen of the acne patients examined, seven men and women were categorised as 'Rebels and Dreamers'. Within this group, the males attested to having 'taken pride in being dirty, untidy

³⁷⁷ Ibid.

³⁷⁸ Eric Lipman Cohen, 'Acne and Sleep', *Br J Dermatol* 57 (1945), 147-151.

³⁷⁹ Eric Wittkower, 'Acne vulgaris: a psychosomatic study', *Br J Dermatol* 63 (1951), 214-223.

and careless', whereas the female acne sufferers were defined as having a strange fixation with their father which manifested itself in their 'concealed hostility' toward their mother. In the next group, seven patients were categorised as being 'Overgrown Children'. Most of these patients claimed to have been mollycoddled by their parents for a variety of reasons, such as due to them suffering from an illness or disability. On the other hand, eight patients were classified as suffering from 'Gross Psychological Disorders' in which four were diagnosed as suffering from anxiety hysteria, conversion hysteria, endogenous depression, character disorder, and psychopathic personality. Finally, nine patients were found not to be classed in any of the aforementioned groups. In his conclusion, Wittkower claimed that, despite some of the acne sufferers displaying clear evidence of suffering from a range of emotional disturbances, it was very unlikely that 'acne vulgaris can be explained on psychological grounds alone'. As acne was a disorder that commonly occurred at the onset of puberty, Wittkower felt it was very likely that the condition could be explained by both the 'physiological process of maturation and emotional disturbances'.

Wittkower's study came at a time when the health and well-being of adolescents in both Britain and the US came under closer scrutiny from criminologists, doctors, psychiatrists, sociologists and large segments of the media. Although research into acne continued apace in the post-war period and stimulated further debate and disagreement amongst medical specialists, concern surrounding the condition particularly centred upon what having acne meant for the psychological health of teenagers.

Conclusion

In 2018, an article entitled ‘Why Hasn’t Science Solved Acne Yet?’ appeared in the September edition of American magazine *The Atlantic*.³⁸⁰ Assessing the current treatment options for acne, reporter Angela Lashbrook interviewed several dermatologists about the ‘dozens, if not hundreds, of theories on preventing and treating acne’.³⁸¹ While some sufferers gave up dairy, ‘swore by’ taking supplements and even drank ‘dog pee’, dermatologist Carlos Charles explained that the multifactorial nature of acne made the condition extremely difficult to treat. Commenting on the new acne vaccine in development (as discussed at the beginning of this chapter), Charles claimed that, although it was “really promising”, the treatment had a ‘narrow focus’, given that it only targeted the ‘inflammatory response to skin bacteria’. As a result, Charles opined that he could not envision the vaccine being used as a “single agent” and, instead, imagined it would be used as an adjunct therapy alongside other more recognised acne treatments. Also concerning to the dermatologists featured in the article were the range of serious side effects associated with new treatments. Swiss dermatologist, Emmanuel Contassot, for instance, revealed that the new vaccine “might worsen patients’ condition by disturbing skin integrity”.³⁸² In addition, the American Academy of Dermatology warned against the overuse of lasers to treat acne, noting their often ‘time intensive’ and ‘unpredictable’ results. Lasers also came with ‘their own host of potential side effects, including swelling, redness, and even burns’.

The problems discussed in *The Atlantic* article bear a striking resemblance to the difficulties which confronted specialists in the first half of the twentieth century. During this period,

³⁸⁰ Angela Lashbrook, ‘Why Hasn’t Science Solved Acne Yet’, *The Atlantic* (September 2018).

³⁸¹ *Ibid.*

³⁸² *Ibid.*

theories regarding the cause of acne were debated by specialists such as allergists, bacteriologists, endocrinologists and psychiatrists. As each field attempted to unearth the exact cause of acne and discover useful treatments, a plethora of studies were conducted. These studies served to uncover the specific bacteria causing acne, identify particular foodstuffs or allergens which caused acne in some susceptible patients, and determine whether or not emotional factors could exacerbate or even cause the condition.

Although specialists in the first half of the twentieth century attempted to uncover both the cause of acne and employed a number of alternative therapies to try and alleviate the condition, the development of a distinct and influential youth culture in the post-war period led to a deluge of studies which raised concerns over the potentially serious psychological, social and economic implications for teenage acne sufferers. As the following chapter argues, increased medical concern about acne was a consequence of the development of adolescent medicine and worries about the mental health of young Americans. These negative social repercussions associated with acne would ultimately contribute to the acceptance of more dangerous and invasive treatments for the condition.

Chapter 4

Adolescent Acne in Post-War America

In 1956, an article entitled ‘Their Speciality is Teen-agers’ appeared in the magazine *Parents’ and Family Home Guide*. Its author, editor Vivian Cadden, described how staff at the Adolescent Unit of The Children’s Hospital in Boston were wrestling with the ‘exasperating, illogical and senseless’ nature of teenage health. She explained how teenage girls suffering from a heavy cold would spend a day at the beach and not ‘give a hoot’ whether they came down with pneumonia. These same girls, however, would feign illness and ‘mope around’ to convince their parents to let them stay at home ‘all because she has developed a pimple on her nose’.³⁸³ In the post-war period, the birth of adolescent medicine helped to categorise juvenile patients as needing specialised medical care due to the realisation that teenage patients faced unique physiological, social and psychological problems that had the potential to negatively impact their physical and mental health. While acne had generally been thought of as merely a consequence of maturation and, thus, not always afforded the same attention as more serious disorders by physicians, the growing awareness that teenagers required more focussed care led to health professionals acknowledging the condition’s potentially damaging effects.

This chapter begins by arguing that increased medical concern about acne was a consequence of the development of adolescent medicine and worries about the mental health of young Americans. It examines the influence of renowned paediatrician James Roswell Gallagher, whose concerns regarding the inadequate healthcare afforded to adolescent patients in mid-twentieth-century America led to the establishment of a new field and unit dedicated to their mental, emotional, social and physical well-being. It also explores the alternative way in which

³⁸³ Vivian Cadden, ‘Their Specialty is Teen-agers: This Account of What is Being Found Out and Done for Teen-agers at the Adolescent Unit of the Children’s Hospital in Boston is Full of Helpful Ideas for Parents Everywhere’, *Parents’ Magazine & Family Home Guide* (July 1956), 83-86.

staff at the Boston Adolescent Unit treated acne, by not only treating the disease but also the person, demonstrating physicians' aversion to unnecessarily using drug treatments.

Next, it explores how concern about acne resulted in not only the opening of a range of acne clinics, but also attempts by physicians to communicate to sufferers, parents and the general public about the condition via a series of newspaper medical columns, questionnaires, and magazine articles. The chapter concludes by arguing that, as anxiety regarding the psychological impact of acne on young Americans grew, doctors, dermatologists, criminologists and sociologists ultimately constructed acne as a threat to not only one's social standing but, equally, to the social order of the United States.

Acne and the Birth of Adolescent Medicine

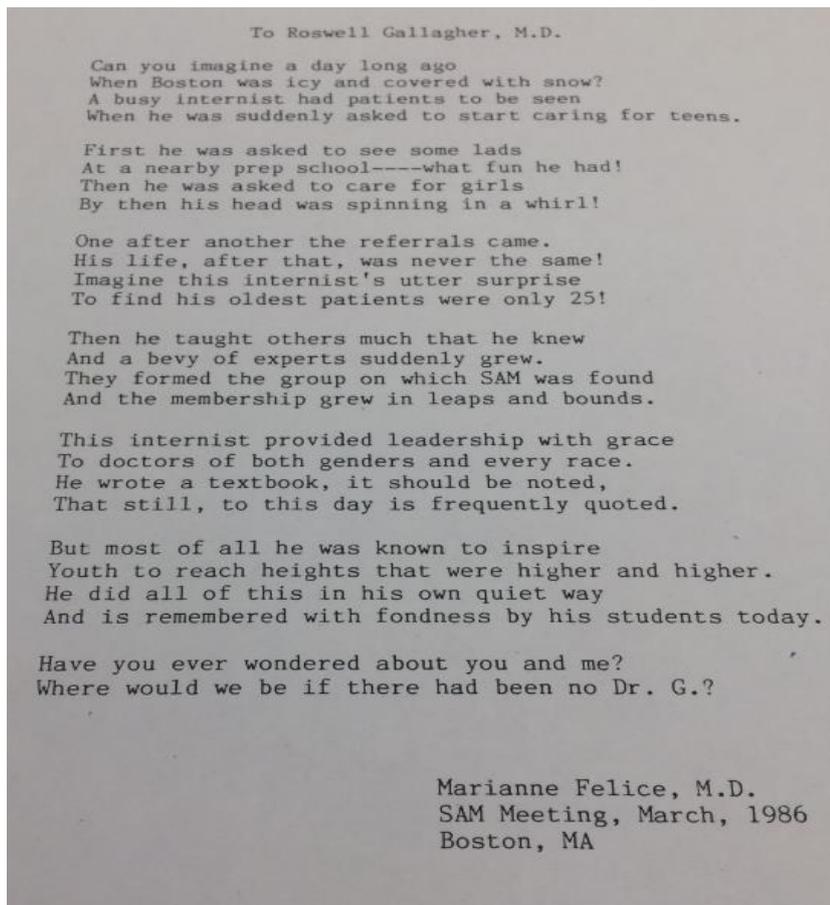


Figure 24 'Can you imagine a day long ago'.³⁸⁴

In 1986, during the Annual Meeting of the Society for Adolescent Medicine, paediatrician Marianne E. Felice read aloud the above poem (Figure 24) she had written about her long term friend and colleague, James Roswell Gallagher.³⁸⁵ In twenty-six lines, the poem encapsulates Gallagher's dedication to the field of adolescent medicine, the positive impact he had on his

³⁸⁴ Poem marked as "To Roswell Gallagher, M.D" by Marianne Felice (M. D), delivered at the Society for Adolescent Medicine Boston, March 14th, 1986. MC 12 Box marked "Correspondence, General, 1950 – 1987" in Boston Children's Hospital Archive (Adolescent Unit) MC Gallagher.

³⁸⁵ Felice, herself, has an impressive background. In 2013, for example, she was honoured 'by the Massachusetts Medical Society as the recipient of its first Woman Physician Leadership Award' – a prize established to recognise and commend 'outstanding leadership and contributions to patients and the medical profession by a woman physician'. 'UMass physician Marianne E. Felice, M.D. is honoured by the Massachusetts Medical Society with inaugural Woman Physician Leadership Award', <http://www.massmed.org/News-and-Publications/MMS-News-Releases/UMass-physician-Marianne-E-Felice,-M-D--is-honored-by-the-Massachusetts-Medical-Society-with-inaugural-Woman-Physician-Leadership-Award/#.XDMuIPZ2uUk>, Accessed 3 January 2019.

teenage patients and, as the last line illustrates, the extraordinary way in which he ultimately influenced his colleagues.

Serving as a school physician at The Hill School in Pottstown, Pennsylvania during the Great Depression, Gallagher became concerned that the medical knowledge and treatments available to school physicians were inadequate for meeting the complex needs of his teenage patients. During his consultations with teenage patients at The Hill School, Gallagher identified medical problems such as contagious diseases, injuries sustained during athletic exercises, inadequate nutrition, obesity, acne, anaemia, academic difficulties, and a range of psychological and behavioural issues which were of particular concern.³⁸⁶ While working at the Boston Adolescent Unit which he founded, Gallagher would become renowned for his speciality in treating teenage patients with complex medical and social problems. Founded in 1869 as a '20-bed facility', Boston Children's Hospital was well known for its expertise in treating sick children and infants.³⁸⁷ Like Gallagher, physicians at the hospital realised adolescent patients were frequently treated in the same way either a child or adult and not as an adolescent with quite divergent needs. In Gallagher's view, paediatricians were often 'preoccupied with premature babies, transfusions, feeding problems and running ears' whereas internists were mainly concerned with the 'ills of adulthood and advancing age'.³⁸⁸ As a result, Gallagher believed that adolescents were essentially being abandoned and required specialised medical care. Such concerns acted as the stimulus for the creation of a unit devoted exclusively to the health needs of teenagers.

³⁸⁶ Wolfgang Saxon, "James Roswell Gallagher, 92, Leader in Adolescent Medicine," *New York Times* (15 November 1995), <https://www.nytimes.com/1995/11/15/us/james-roswell-gallagher-92-leader-in-adolescent-medicine.html>, Accessed 4 January 2019.

³⁸⁷ Boston's Children Hospital: Historical Milestones, <http://www.childrenshospital.org/about-us/our-history-and-innovations/historical-milestones>, Accessed 28 March 2017.

³⁸⁸ James Roswell Gallagher, *Medical Care of the Adolescent: A Textbook Concerning the Medical Care and Understanding of Adolescents Themselves and of Their Disorders* (New York, Appleton-Century-Crofts, 1966), 4.

Founded by Gallagher in 1951, the Boston Adolescent Unit was the ‘first comprehensive medical section caring for patients 12 to 21 years of age’.³⁸⁹ According to Gallagher, family physicians, paediatricians, parents and teachers were all required to treat ‘young people as adolescents, not as little children, not as adults; they are not little boys or little girls any more, and they are not adults yet: they are young people who are beginning to be adults’.³⁹⁰ Until this concept was understood, Gallagher believed the adolescent would continue to be viewed as something of an ‘enigma’.³⁹¹ In addition, Gallagher underlined the importance of ‘providing holistic and interdisciplinary care’ utilizing a team which included: ‘medical consultants, social workers, guidance counsellors, and others to address adolescents’ diverse health care needs’.³⁹² Gallagher’s patients were part of the baby-boom generation who helped create a distinct youth culture in the US during the 1950s.³⁹³ Representing a whole new consumer market for the pharmaceutical, music, film and fashion industries to exploit, baby-boomers also had divergent physical, social and psychological needs. In Gallagher’s studies evaluating the emotional problems facing American teens, anxieties about various forms of abnormality were pronounced:

The adolescent who is not maturing as rapidly as his or her companions, the boy who is shorter or the girl who is taller or more obese than usual, not only dislikes being different, but may become emotionally

³⁸⁹ Wolfgang Saxon, ‘James Roswell Gallagher, 92, Leader in Adolescent Medicine’, *New York Times* (15 November 1995), <https://www.nytimes.com/1995/11/15/us/james-roswell-gallagher-92-leader-in-adolescent-medicine.html>, Accessed 5 January 2019.

³⁹⁰ Ibid.

³⁹¹ James Roswell Gallagher, ‘Various Aspects of Adolescence’, *J Pediatr* 39 (1951), 532.

³⁹² Harriette B. Fox, Margaret McManus, Jane E. Wilson, Angela Diaz, Arthur B. Elster, Marianne E. Felice, David W. Kaplan, Jonathan D. Klein, and Charles J. Wibbelsman, ‘Adolescent Medicine at the Crossroads: A Review of Fellowship Training and Recommendations for Reform’, Washington, DC: National Alliance to Advance Adolescent Health 23 (2008), 1-37. Full report available from https://escholarship.umassmed.edu/cgi/viewcontent.cgi?article=1022&context=peds_adolescent, Accessed 6 January 2019.

³⁹³ For more on the fascinating history of the baby boomers see: Doug Owsram, *Born at the Right Time: A History of the Baby-Boom Generation*, (Toronto: University of Toronto Press, 1997), Landon Jones, *Great Expectations: America & the Baby Boom Generation*, (Charleston, South Carolina: Booksurge Publishing, 2008), Victor D. Brooks, *Boomers: The Cold-War Generation Grows Up*, (Chicago: Ivan R. Dee, 2009).

disturbed, fearing that she will keep on getting taller or that he or she will never mature.³⁹⁴

Historian Heather Munro Prescott has shown that staff at the Adolescent Unit employed a strategic advertising campaign aimed at convincing parents and their teenage offspring that their clinic was the best medical facility suited to catering for teenagers' health needs. Aside from using popular magazines, newspapers and television shows (Figures 25-27) to promote the unit's services directly to parents and adolescents, Gallagher and other staff working at the Adolescent Unit gave numerous lectures and presentations to parental groups and teenage organisations. Shortly after it was founded, the unit examined and treated adolescent patients 'from a variety of socioeconomic backgrounds and classified them into two categories'.³⁹⁵ While the 'clinic' patients consisted of teenagers from low income families, 'private' cases tended to be mostly from middle and upper class backgrounds. Despite health professionals at the unit providing discounted medical treatment to organisations like 'the Hayden Goodwill Inn for delinquent boys, the Industrial School for Crippled Children, and the Boys' and Girls' Clubs of Boston', Gallagher and his colleagues were only able to run the facility because of the money derived from private patients. Gallagher frequently published articles in journals such as *Clinical Paediatrics*, which offered physicians advice on how best to manage the health problems of adolescents.³⁹⁶ Although some of his colleagues wished to make adolescent medicine a 'distinct medical speciality', Gallagher was against the idea, believing that specialisation would ultimately violate the 'original goals of the field which were to provide holistic, patient-centred care to adolescents'.³⁹⁷ If adolescent medicine moved towards specialisation, Gallagher feared that the field would suffer fragmentation and splinter into a

³⁹⁴ Gallagher and Gallagher, 'Some Comments', 335.

³⁹⁵ Prescott, *A Doctor of Their Own*, 76.

³⁹⁶ *Ibid*, 77.

³⁹⁷ *Ibid*, 128.

number of subspecialties such as adolescent endocrinology and cardiology. Due to his concerns, Gallagher was reluctant about founding a professional organisation for adolescent medicine’ and, for several years, was similarly against the idea of having an academic journal dedicated to the field. Whilst Gallagher did agree to become the first president of the Society for Adolescent Medicine, according to Prescott, he ‘never accepted the organisation’s larger professional goal to make adolescent medicine a speciality’.³⁹⁸ Instead, Gallagher argued adolescent medicine should be defined as a “set of principles based on an understanding of physical and emotional development to guide physicians in dealing more effectively with teenage patients.”³⁹⁹

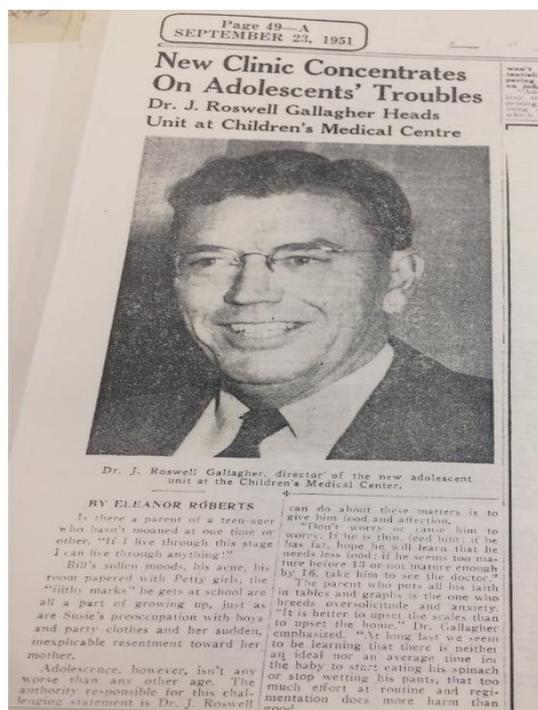


Figure 25 New Clinic Concentrates On Adolescents' Troubles.⁴⁰⁰

³⁹⁸ Ibid.

³⁹⁹ Ibid.

⁴⁰⁰ In this feature article, Gallagher advised parents to try and reduce their anxiety levels concerning their adolescents' health problems as 'Bill's sullen moods, his acne, his room papered with Petty girls and Susie's preoccupation with boys and party cloths are all part of growing up'. Boston Children's Hospital Archive (Adolescent Unit) MC Gallagher, Box 12, Publications: Articles Reprints, Eleanor Roberts, 'New Clinic Concentrates On Adolescents' Troubles', *Boston Sunday Post* (23 September 1951).



Figure 26 Adolescents Have Own Medical Clinic.⁴⁰¹

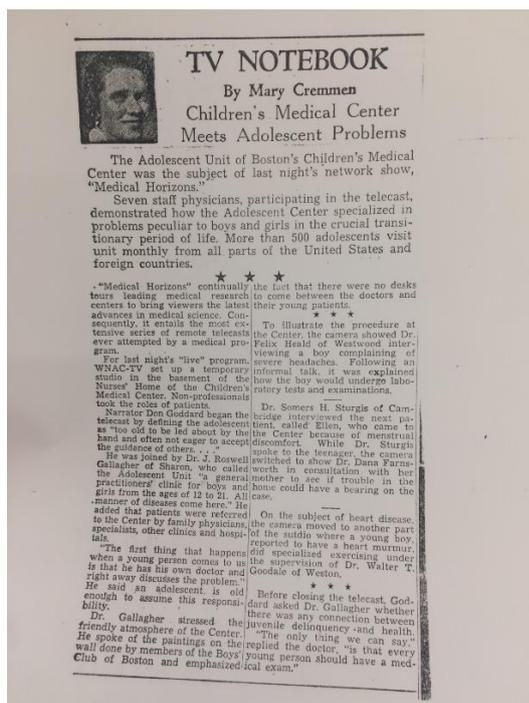


Figure 27 'Children's Medical Center Meets Adolescent Problems'.⁴⁰²

⁴⁰¹ This article described the aims of the Adolescent Unit and provided an in-depth outline of the facilities available at the Boston clinic. Boston Children's Hospital Archive (Adolescent Unit) MC Gallagher, Box 12, Publications: Articles Reprints, Edward Devin, 'Adolescents Have Own Medical Clinic: Youths Take Responsibility for Healthy at Unique Unit', *The Boston Herald* (20 December 1965).

⁴⁰² This article discussed an episode of the television programme *Medical Horizons*, which featured the Adolescent Unit and aired in November 1955. The show frequently toured leading medical centres throughout the United States broadcasting the latest advances in medical science. The episode which focussed on the Adolescent Unit featured seven staff physicians who claimed that the Adolescent Centre had treated more than

For physicians tasked with treating adolescent patients in the post-war period, establishing a mutual level of trust between patient and doctor was key to achieving the main objective of overcoming whatever health or emotional problem was troubling the youngster.⁴⁰³ Furthermore, throughout his publications, Gallagher reminded doctors treating adolescent patients that the attitude they displayed during consultations was of paramount importance. While some teenage patients were unlikeable and could cause physicians to feel uncomfortable when dealing with them, Gallagher claimed the potential for progress would be stymied if the latter failed to accept their unpredictability. Though becoming more flexible in their approach and tolerant of teenage patients' mood swings was recommended, this was not to say physicians were required to forgo their authoritative stance altogether. After all, physicians and adolescent patients were not friends; their relationship was based on the common goal of achieving improved emotional and physical health.⁴⁰⁴ Gallagher believed, if given the chance, teenage patients would 'seize upon an opportunity to talk to a respected and understanding adult and appreciate an adult's genuine interest in them' – the paediatrician citing the following quote from a boy scout to substantiate his point:

I can honestly say the only ideas on morals I know anything of, were those that bent, old cubmaster made me believe in, chiefly, I think, because he made us feel that he liked us, all of us grubbly-kneed little monsters, and cared what happened to us, and didn't want anything from us, except that we look after ourselves decently in the great world hereafter. He was the first adult I'd ever met-even including Dad -who didn't come adult at us-didn't use his strength and won us over by persuasion.⁴⁰⁵

500 adolescent patients from both the United States and other countries in Boston Children's Hospital Archive (Adolescent Unit) MC Gallagher, Box 12, Publications: Articles Reprints, Mary Cremmen, 'TV Notebook: Children's Medical Centre Meets Adolescent Problems', *The Boston Daily Globe* (29 November 1955)

⁴⁰³ Gallagher and Gallagher, 'Some Comments', 334-348.

⁴⁰⁴ Ibid.

⁴⁰⁵ Ibid.

In addition, Gallagher believed the doctor-patient relationship should be more patient-centred and provide teenage patients with more autonomy when it came to matters of deciding how best to overcome their physical and emotional complaints – a marked alternative to the paternalistic medical-model for treating juvenile patients.

When it came to acne, pre-war medical literature suggests that the relationship between sufferers and physicians was anything but equal. Holding a ‘casual disregard’ towards acne, general practitioners frequently dismissed adolescent patients’ concerns about their skin.⁴⁰⁶ Moreover, some physicians even questioned whether dealing with acne was within their remit, as the skin condition was considered merely a ‘physiological manifestation of puberty’.⁴⁰⁷ Given the condition’s status as both a ubiquitous and non-life threatening condition, some physicians refused to see patients for what they viewed as a trivial and benign complaint; some even went as far as to question the integrity and standing of medical colleagues who did not turn acne sufferers away from their door.⁴⁰⁸ Physician Earnest Chipman, for instance, took umbrage with being dismissingly referred to as a ‘beauty doctor’. In Chipman’s view, treating disfiguring conditions like acne was not merely to make his patients look more aesthetically pleasing, but was intended to improve their all-round well-being and enhance their job prospects.⁴⁰⁹ Offering his own explanation as to why his medical colleagues were reluctant to treat adolescent acne, New York based Dr Frederick F. Schrick claimed that:

There is probably no skin disease which is more casually disregarded than Acne Vulgaris, commonly known as pimples. The physician and layman alike often take it for granted that a certain amount of Acne is natural during the adolescent period of life, that the victim is bound to outgrow it and that it is of little importance anyway. As a matter of fact, the disease is not fatal, and the patients do recover eventually.⁴¹⁰

⁴⁰⁶ Frederick F. Schrick, ‘Pimples’, *J Sch Health* 4 (1934), 13.

⁴⁰⁷ See Hollander, ‘Endocrine Glands’, 593-597.

⁴⁰⁸ Ernest Dwight Chipman, ‘Social Aspects of Dermatology’, *Cal West Med* 31 (1929), 11-12.

⁴⁰⁹ *Ibid.*

⁴¹⁰ Schrick, ‘Pimples’, 13.

Judging from post-war medical literature, however, the uplifting and positive approach espoused by Gallagher in dealing with adolescent patients since his time working at The Hill School in Pottstown began to filter down to other health professionals. In 1950, for instance, an article published within the *American Journal of Nursing* by Margaret G. Reilly signified the apparent shift in the rhetoric regarding the seriousness of juvenile acne. Based at the Massachusetts General Hospital of Nursing, Margaret Reilly had significant experience of treating patients suffering from a range of skin conditions and was co-author of the book *Diagnosis and Treatment of Skin Diseases*. During her meetings with parents and teenagers, Reilly claimed that the one recurring theme regarding acne centred upon frustration over the lack of interest nurses and doctors expressed towards the condition. In her experience, ‘many adolescents had been dismayed by a casual “Oh it’s your age; buck up and you will outgrow it!” retort when seeking help from their general practitioner. Sweeping statements like this were dangerous as they tended to offer teenagers and their families false hope concerning the innocuous nature of acne. Their fears allayed, parents and acne sufferers might then fail to seek out medical treatment, possibly resulting in irreversible damage and permanent facial scarring. Appealing to her colleagues within the nursing world, Reilly spoke of the onset of puberty bringing in ‘new patterns of behaviour which complicate the individual’s growth and social adjustment’.⁴¹¹ In Reilly’s view, adolescents going through puberty strived for independence and desired to break free from the suffocating environment of school and the family household. During their interactions with peers, they desired to ‘establish deep and satisfying relations with members of his own age group and those of the opposite sex’.⁴¹² Reilly explained that adolescents were becoming obsessive about their personal appearance and image – a fact evidenced by their new-found interest in personal hygiene and fashionable clothes. In her view,

⁴¹¹ Margaret Reilly, ‘Juvenile Acne’, *Am J Nurs* 50 (1951), 269-271.

⁴¹² *Ibid.*

an adolescent's ambition to be socially accepted by his peers could thus be prevented by the onset of acne.⁴¹³ Despite adolescents considering acne to be a barrier to personal attractiveness, Margaret Reilly warned her fellow nurses that getting sceptical juvenile patients to follow their advice regarding the importance of hygiene was easier said than done. Reilly recommended that school nurses treating acne be careful when dispensing advice as 'neither admonitions nor restrictions will be accepted'. When offering scientific facts regarding the complex workings of the skin, nurses were advised to present the skin as an organ which depended on the healthy functioning of other vital organs for 'its health and attractiveness'. Moreover, Reilly advocated lecturing juvenile patients on the necessity of adopting good hygienic practices and a well-balanced diet:

Attractive pictures and charts which illustrate the nutritional value of various foods are effective teaching devices. Even more dramatic are photographs of individuals whose diets have caused plugging of the sebaceous glands, and other pictures of the same individuals after their diets have been enriched with essential foods. Alert adolescents will be quick to apply this teaching.⁴¹⁴

During the post-war period, the American medical profession began to increasingly acknowledge the physical and psychological ramifications of adolescent acne. As the following section demonstrates, physicians attempted to raise awareness about the condition amongst the medical community and the public by using a range of dissemination strategies. These included: more academic publications and lectures devoted to the issue of adolescent acne,

⁴¹³ Reilly's anxieties concerning the importance of physical attractiveness for adolescents was supported by American educational psychologist, Caroline Beaumont Zachry. In Zachry's experience of offering psychological counselling to young girls and boys, she found that adolescents wanted to be 'irresistible to members of the opposite sex; win a husband or wife who not only is the perfect mate for him but who also appeared desirable to the rest of the world; marry and found a family; make a place for himself in the community'. Warning that during puberty adolescents began to realise the 'carefree assurance of childhood was leaving them', Zachry argued that her young patients often viewed the 'body as symbolising the self'. Thus teenagers frequently became infatuated with whether or not they were 'ugly, unattractive or a physical weakling'. Often, in Zachry's experience, small defects, such as pimples, were therefore blown out of proportion as girls considered them to be a 'hideous disfigurement'. Caroline Beaumont Zachry, 'Customary Stresses and Strains of Adolescence', *Ann Am Acad Political Soc Sci* 236 (1944), 136-144.

⁴¹⁴ Reilly, 'Juvenile Acne', 269-271.

opening a range of acne clinics and engaging with sufferers via health columns, newspapers, magazines and questionnaires.

Medical Responses to Adolescent Acne

In 1956, Gallagher and colleagues at the Adolescent Unit turned their attention to examining the problem of acne in adolescents.⁴¹⁵ Although they did not proclaim to be adding anything new to the current understandings on the condition, they felt it necessary to ‘re-emphasise’ some key points concerning how best to approach the skin ailment. The problem of acne was significant not only due to its ubiquity but also the condition’s potential impact on the adolescent sufferer’s personality. The management of acne required physicians to intensely study available medical literature on the subject. Additionally, it was deemed necessary to gain an in-depth ‘knowledge of the patient’s personality’ to understand the reasons why the adolescent acne sufferer felt embarrassed, and to establish a trusting relationship. This could be achieved by asking the acne sufferer what hobbies they enjoyed, how school was going, and enquiring about their social interests. Establishing a relationship was vital in enabling the patient to discuss their problems with acne, their concerns for the future and, in due course, accepting and following the physician’s suggestions on how best to treat the ailment. Physicians treating the adolescent acne sufferer were advised to see the patient on their own, away from their parents, who would often spend the duration of the appointment expressing their own concerns regarding the problem of acne – a feature which served to hinder physicians tasked with understanding the ‘whole personality of the patient’.⁴¹⁶

⁴¹⁵ J. Roswell Gallagher, Robert P. Masland, Felix P Heald and William R. Hill, ‘Some Comments on Acne Vulgaris in Adolescents’, *J Pediatr* 49 (1956), 680-684.

⁴¹⁶ *Ibid.*

In the post-war period, for example, parents of adolescent girls became anxious about their daughters' potential of 'social mobility' and, more importantly, her marriageability. During this period, it was said that 'one of the competitive advantages a girl has available to her is her sexual attractiveness to males'.⁴¹⁷ As many parents felt that marriage and motherhood were key objectives in enabling their daughters to lead a purposeful and rewarding life, it was felt that physical defects like acne could prohibit their offspring from attracting a suitable husband. This was not to say physicians would refuse to speak with anxious parents concerned about the health of their child's skin. Parents of children with acne were frequently allotted their own time slot in which they could question the physician on what they could do to help their offspring achieve a clear complexion. The 'burden of adhering to treatment', however, was placed firmly at the door of the adolescent and not the parent.⁴¹⁸ During each appointment with the acne sufferer, Gallagher advised physicians to always offer 'constructive help' and never downplay the problem. In the event the patient seemed 'overly anxious', it was suggested that physicians proposed a return visit sooner than normally required.

To safeguard against any potential scarring, Gallagher recommended that treatment be started immediately. To treat mild acne, staff at the unit believed soap and water to be a much safer alternative than the plethora of over the counter drugs and creams that were available from local drugstores at the time. Though the authors were not against patients using sulphur and, in severe cases, drugs like tetracycline and oxytetracycline, they favoured using natural soaps to remove the excessive oiliness of the skin frequently found in mild cases. Moreover, physicians were advised to firstly consider endorsing improved personal hygiene, eliminating any disagreeable foodstuffs and planning an adequate program of exercise before they prescribed

⁴¹⁷ Prescott, *A Doctor of Their Own*, 99.

⁴¹⁸ According to Gallagher, when parents 'reminded, scolded, supervised and inspected' their child's treatment of acne it had the potential to lead to resentment and family friction. Gallagher, *Medical Care of the Adolescent*, 170.

local antibiotics, which usually gave ‘inconsistent results and were not recommended’. This advice to avoid treating acne with more toxic therapies was in keeping with Gallagher’s holistic, patient centred approach to treating adolescents – the following excerpt illustrating his aversion to what he termed ‘the pill habit’:

If the adolescent has not developed a rational, objective attitude toward his health it is not too late to try and give him one. To interest him in finding causes rather than taking pills, to help him to avoid worrying about his health and from being reckless is far more important. The avoidance of the pill habit should start in infancy but they will need reinforcement as they get older and are subjected to fear advertising, his playmates’ habits and attitudes, and the peculiar ways of some of those adults whom he learns to admire.⁴¹⁹

Soon, the problem of acne amongst students also gained the attention of members from the American School Health Association (ASHA). In 1957, San Francisco-based physician Herbert Lawrence presented a paper entitled ‘Acne, The Complexion Problem of Young Adults’ at the Thirty-First Annual Meeting of the ASHA. Held in the luxury Hotel Hollenden, Cleveland, Ohio, the meeting was borne out of the American Progressive Health Reform Movement’s desire to improve the health of American children. Although Lawrence outlined the current scientific understandings regarding the cause of acne, he personally felt that the pursuit of finding one singular source of adolescent acne was fruitless. Given the numerous changes to their bodies, their behaviour patterns and the onset of emotional conflicts regarding ‘dependency, independency and sexuality’, Lawrence proposed looking at the whole adolescent acne patient, rather than any specific factor. Lawrence reminded his audience that the teenage years were ‘an exceedingly active time for these young people’; all his patients had hectic lifestyles. Aside from the stresses that accompanied a demanding school schedule, teenagers were also involved in extra-curricular activities, and some had part-time jobs to pay for their newfound social life. Lawrence also proposed a theory connecting emotional turmoil and acne.

⁴¹⁹ Gallagher et al, ‘Some Comments on Acne Vulgaris in Adolescents’, 680-684.

As over-activity of the oil glands was thought to contribute to patients' outbreaks, Lawrence referenced unnamed studies in which adolescents were placed under enormous stress by psychiatrists and psychologists who determined the levels of oil secreted before and after the test. Findings from the tests showed that adolescent patients secreted 'an abnormal amount of oil under stress'. In one study, a group of teenage patients were recruited to carry a journal for three months, noting 'the number of acne lesions that they had each day and note episodes of emotional tranquillity or lack of it throughout this period'. Lawrence considered the physiological basis for this phenomenon:

There is a theory that during stress the oil gland secretion is accelerated. During periods of quiescence the oil is stagnant in the follicle, hardens and forms a plug. When another period of stress comes along, the plug prevents the secretion from reaching the surface of the skin and produces an irritating impaction or foreign body in the follicle or its opening. This in turn sets up the whole inflammatory process which results in the clinical lesions of acne.⁴²⁰

Like Lawrence, Gallagher had his own theory concerning stress and acne. In a 1961 interview with the *Boston Herald* (Figure 30), he claimed that the struggle between 'East and West' was making victims of our children without a shot being fired'.⁴²¹ In Gallagher's view, health issues affecting adolescent patients like acne, obesity and headaches were psychosomatic in nature and could be attributed to the stress being placed

⁴²⁰ Herbert Lawrence, 'Acne, The Complexion Problem of Young Adults', *J Sch Health* 27 (1957), 164-70. Herbert Lawrence had written a well-received self-help book on adolescent acne in 1949 entitled *The Skin Problem Facing Young Men and Women*, which promised to 'discuss the many misconceptions about the cause of acne, the emotional problems that acne causes in the adolescent, the problems of the dermatologist and what he can do for these patients, things the patient should not use, and how the parents should approach their child's problem'. Anon (Book Review) Herbert Lawrence, 'The Skin Problem Facing Young Men and Women', *Arch Derm Syphilol* 61 (1950), 538-538.

⁴²¹ Noah Gordon, 'Students Seen as Cold War Victims', *Boston Herald* (August 1961), 17 in Boston Children's Hospital Archive (Adolescent Unit) MC Gallagher, Box 12, Publications: Articles Reprints. The Cold War politics of the time also witnessed the media propagating images of hyper femininity. The media characterised Soviet women as being masculine, unfeminine and unattractive, while American women were characterised as charming, personable and, importantly, sexually attractive to their hard-working husbands. Ilana Nash, *American Sweethearts: Teenage Girls in Twentieth-century Popular Culture* (Bloomington: Indiana University Press, 2005), 171.

on teenage patients by newspapers, teachers, parents and ministers.⁴²² In several articles, Gallagher urged doctors to approach adolescent patients in a ‘different way’, by not only treating the disease but also the person. When doctors were faced with ailments such as obesity, diabetes or acne, Gallagher reminded them that ‘patients’ physiologic and psychologic traits are at least equally important’.⁴²³

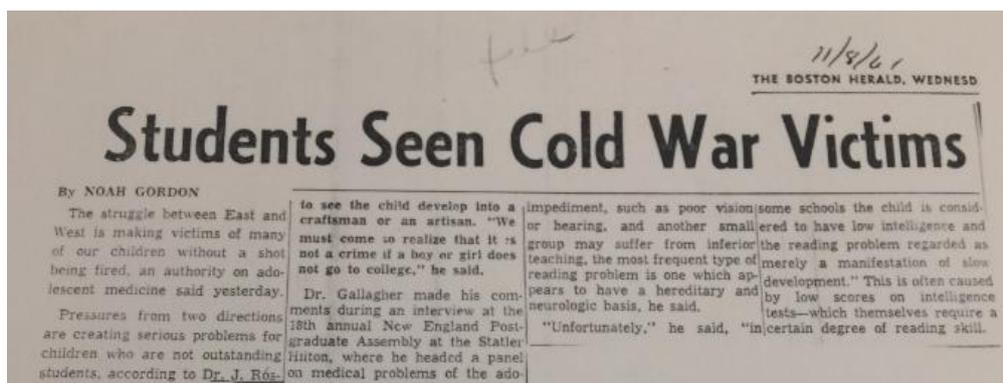


Figure 28 ‘Students Seen Cold War Victims’⁴²⁴

Lawrence and Gallagher’s concerns about the negative consequences of acne were echoed by the American National Centre for Health Statistics. In the US, the National Centre for Health Statistics sponsored the Health Examination Survey between the years of 1966 and 1970 in order to ‘determine the health status of the population’.⁴²⁵ As the survey during this period explicitly

⁴²² Ibid. Marilyn Irvin Holt has argued that, during the Cold War, American children and adolescents were ‘encouraged to advance their educations, become physically fit, and develop their individual talents’. Viewed as the country’s “most cherished hopes for the future”, ‘one day they would be the adults contributing to the country’s economy and carrying on its inherent values while also defending it against the non-democratic, totalitarian forces of the world’. Marilyn Irvin Holt, *Cold War Kids: Politics and Childhood in Postwar America, 1945- 1960*, (Kansas: University Press of Kansas, 2014) 147.

⁴²³ James. Roswell Gallagher, ‘Adolescents’ Medical Care Today’, *Health News* (April 10 1969), 2 in Boston Children’s Hospital Archive (Adolescent Unit) MC Gallagher, Box 12, Publications: Articles Reprints,

⁴²⁴ Ibid.

⁴²⁵ Jean Roberts and Jacqueline Ludford, ‘Data from the National Health Survey, Skin Conditions of Youths 12-17 Years’, 1. U.S Department of Health, Education and Welfare: Public Health Service Health Resources Administration. Full report available from

<https://books.google.co.uk/books?id=XALUZeYifh8C&pg=PP4&lpg=PP4&dq=Roberts+and+Ludford,+%E2%80%98Data+from+the+National+Health+Survey,+Skin+Conditions+of+Youths+12-17+Years%E2%80%99,+1.&source=bl&ots=VLyChsZJCS&sig=ACFU3U2C4Z2xeHERWFuvzdSbRqqmbl8VNg&hl=en&sa=X&ved=2ahUKewic1pD-gYzpAhWWQkEAHbmKDIkQ6AEwAHoECAgQAO#v=onepage&q=Roberts%20and%20Ludford%2C%20%E2%80%98Data%20from%20the%20National%20Health%20Survey%2C%20Skin%20Conditions%20of%20Youths%2012-17%20Years%E2%80%99%2C%201.&f=false>, Accessed 12 May 2019.

focussed on the range of health conditions affecting adolescents between the ages of twelve and seventeen, a special report detailing the range of skin conditions prevalent within this group was produced from the resulting data. While the data was ‘based on direct examination findings from the Health Examination Survey of 1966-70 among a national probability sample representative of the 22.7 million youths’ residing in America during this period, data from sources such as patient questionnaires, medical histories and physical examination found acne to have a seriously detrimental impact on adolescents during a critical period in their development. Using the probability sample of youth in the Health Examination Survey of 1966-1970, it was found that only 27.7 per cent of youths between the ages of twelve to seventeen could be characterised as having normal skin and no signs of acne or facial scarring. Moreover, it was claimed that 15.5 million youths suffered from facial acne – sixty-eight per cent of the population. Facial acne was identified as the ‘most frequently occurring of the skin conditions’ among twelve to seventeen-year-olds, and was ‘slightly more prevalent amongst girls (69.8 per 100) as opposed to teenage boys (66.4 per 100)’. Nearly eighty-five per cent of youths who suffered from acne admitted to their condition bothering them. Indicative of the medical profession’s increasing belief in the role of psychosomatic factors, the report dedicated a segment to discussing the relation of stress and other health habits to the severity of the condition. Within the survey, the authors argued that there was a definite association between the ‘degree of nervousness (youth’s rating) and the prevalence of acne’ amongst white youths. For the youths who attested to being ‘never’ or ‘rarely’ nervous (62.6 per 100) the rates of acne were ‘statistically significant’ when compared with those who identified with being ‘often’ or ‘very’ nervous (77.0 per 100). Moreover, acne was said to be ‘slightly higher’ amongst youths who were said to be ‘seriously maladjusted in school’.

The Rise of the Acne Clinic

Concern about acne amongst health professionals led to the opening of acne clinics throughout the US during the post-war period.⁴²⁶ In 1965, paediatrician Dale C. Garell of the Children's Hospital of Los Angeles explained that the 'recognition of a need to provide medical care for the adolescent by Gallagher and others has led to the development of special clinics and ward services throughout the United States and Canada'.⁴²⁷ In order to understand both how many clinics existed within the two countries and how they were organised, Garell sent a questionnaire to 322 hospital administrators. With a response rate of seventy per cent (amounting to 225 hospitals), Garell found that fifty-five were found to have specialised clinics developed to adolescent healthcare. Considering only a decade had elapsed since Gallagher had called for the American medical establishment to recognise that adolescence was a 'unique period of physiological and psychological growth and development', the founding of so many clinics was proof that his message was finding resonance. In his summary, Garell noted that the most common ailments being reported by those seeking help from health professionals stationed at the clinics were namely obesity, acne and allergy.

Skin specialists practicing at the University of Cincinnati had also called for specialised programmes to be set up to deal with the problem of adolescent acne since the 1950s. In 1959, the chairman of the university's dermatology department, Dr Leon Goldman, who called on mothers to cooperate with family doctors to prevent their children from suffering severe and irreversible scarring, was imperative in setting up a pre-puberty clinic at the Children's Hospital in Cincinnati University.⁴²⁸ Dr Goldman became an influential figure in helping educate other

⁴²⁶ Dale C. Garell, 'Adolescent Medicine: A Survey in the United States and Canada', *Am J Dis Child* 109 (1965), 314-317.

⁴²⁷ 'University of Cincinnati Research May Help Teen-agers Develop Acne Control', *Lodi News-Sentinel* (2 January 1959), 32.

⁴²⁸ In medical circles, the late Leon Goldman is known as the 'father of laser surgery'. In the 1960s, Goldman became the first person to treat any form of skin disease with a laser when he treated a patient with melanoma.

doctors on the need to adopt a respectful bedside manner when examining teenagers suffering from acne. In one of his articles, Goldman claimed that ‘the most important thing about this disease is to try to support the self-respect of the youngster’. According to Goldman the respectful attitude extended to both the physician and parents – the latter encouraged to assure their offspring ‘of their sympathy, their love and their desire to help him’.⁴²⁹ Goldman called on family physicians to educate youngsters on what was causing their acne. For instance, in a move to dispel teenage anxieties that their acne was due to poor hygiene, Goldman explained to his patients that blackheads were not due to dirt but due to skin pores becoming clogged with dead skin cells. This fat frequently became easily infected and, when infected, a pustule formed – the latter later becoming a pitting scar if adequate treatment was not commenced straight away.⁴³⁰ In 1971, under the stewardship of Goldman, the Children’s Hospital in Cincinnati, Ohio became the site of the first acne prevention clinic in the United States admitting children as young as six who had shown signs of ‘greasy skin, blackheads and eruptions’.⁴³¹

Some universities like the University of Missouri understood the significance of having a clear complexion in the university setting and offered a free acne clinic to their students in the mid-1960s.⁴³² In 1967, for instance, under the leadership of skin specialists Dr Norman D. Asel and Dr Phillip Anderson of the university’s Dermatology Department, the Acne Clinic ran for six hours every Saturday from 8am until 2pm and was made available to all university students free of charge. Pupils were informed that complexion problems usually flared up in times of stress, with the exam period identified as being particularly detrimental to skin health due in part to

His findings led to him then using the laser to eradicate patients’ unsightly birthmarks and unwanted tattoos. ‘Leon Goldman, 91, A Research Leader in Laser Treatment’, *New York Times* (7 December 1997).

⁴²⁹ Dr Walter C. Alvarez, ‘Acne Needs Treatment’, *The Evening Independent* (14 January 1965). Alvarez frequently referenced Dr Goldman’s advice on how to treat teenage acne, speaking of the latter’s ‘excellent’ and informative articles on the issue.

⁴³⁰ ‘Clinic Begins’, *The Tuscaloosa News* (29 September 1971).

⁴³¹ ‘The Acne Prevention Clinic’, *The Deseret News* (22 September 1971).

⁴³² ‘Clinic Doctor Urges Young People to Get Help for Problem Now’, *Columbia Missourian* (7 March 1967), 77.

students keeping unhealthy and irregular working hours. Understating the need to be proactive and combat acne before it led to disfigurement, doctors working in the Acne Clinic provided students with surgical soaps, medicated ointments and, as a last resort, ultra-violet treatments. The Acne Clinic also ran trials investigating theories about what caused the condition. In one test, for instance, the clinic encouraged a group of students to follow a diet of supposedly inflammatory foodstuffs such as chocolate and candy. Following their junk food binge, students showed little deterioration in the health of their skin, leading the doctors to conclude that there was ‘little connection between diet and skin blemishes’.⁴³³

Acne, Medicine and the Media

Dermatologists and physicians also engaged with acne sufferers and disseminated advice about the condition through platforms such as newspaper columns, feature articles and questionnaires. In August 1968, Robert Masland, who had replaced the retired Gallagher as Chief of Adolescent Medicine at the Adolescent Unit, was approached by the Associated Press regarding the possibility of him participating in their weekly Youth Page.⁴³⁴ Joe Wing, who was features editor for the Associated Press, revealed in his personal correspondence with Masland that he felt the latter’s experience in ‘dealing with the health concerns that seem to be of the biggest concern to teenagers’ made him the ideal candidate to contribute to the weekly column.⁴³⁵

⁴³³ Ibid.

⁴³⁴ As Chief of Adolescent Medicine at the Boston unit during the sixties and seventies, Masland worked extensively with underprivileged adolescents from poor neighbourhoods, including teenagers with substance abuse issues. Moreover, throughout his correspondence with journalists, Masland frequently claimed that many of the health issues affecting adolescent patients he regularly treated at the unit could be attributed to academic pressures. Boston Children’s Hospital Archive (Adolescent Unit) Box 1, Correspondence - Robert Masland, M.D., 1967-1975: Letter from Robert Masland to Mrs Dorothy Siegel, 20 January 1969. For more information on Masland see: Robert Masland obituary, ‘Dr. Robert Masland Jr., 89, mentored medical students’, *Boston Globe* (8 April 2010).

http://archive.boston.com/bostonglobe/obituaries/articles/2010/04/08/dr_robert_masland_jr_89_mentored_medical_students/, Accessed 4 January 2019.

⁴³⁵ Boston Children’s Hospital Archive (Adolescent Unit) Box 1, Correspondence – Robert Masland, M.D., 1967-1975: Letter from William J. Brennan (Director of Public Relations at Adolescent Unit) to Mr Joe Wing entitled: RE Robert Masland, 9 August 1968.

Offering Masland an honorarium of \$25 dollars per week, Wing asked the physician to draft a series of short columns in question and answer format.⁴³⁶ Masland's first Q&A centred on teenage acne, with a focus on the link between poor dietary habits (including a focus on chocolate) and the skin condition (Figure 31).⁴³⁷ After being approved by Wing, these columns were then subsequently published within the Youth Page.

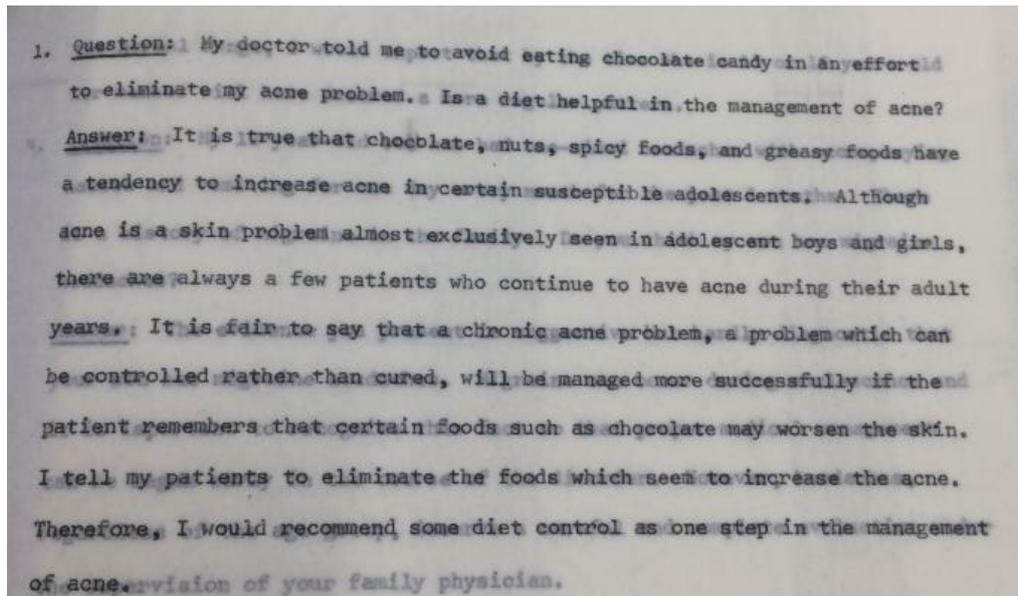


Figure 29 Masland Q&A⁴³⁸

The Associated Press's overture to Masland was indicative of the increasing popularity of medical columns aimed at the adolescent population in the post-war period. During the 1950s and 1960s, patients often learned about medical conditions from popular science writers and medical columnists. Using newspaper columns and magazine articles to communicate their opinions, authors frequently used their public platforms to reassure patients about their many widespread and diverse medical complaints. According to journalist, Marlene Frances Simmons, 'during much of the first half of the twentieth century, as today, many newspapers

⁴³⁶ Boston Children's Hospital Archive (Adolescent Unit) Box 1, Correspondence – Robert Masland, M.D., 1967-1975: Letter from Mr Joe Wing to William J. Brennan 21 August, 1968.

⁴³⁷ Boston Children's Hospital Archive (Adolescent Unit) Box 1, Correspondence – Robert Masland, M.D., 1967-1975: Letter from Robert Masland to Mr Joe Wing entitled: "Example Colum", 2 October 1968.

⁴³⁸ Ibid.

also ran advice and medical columns, many of them syndicated, dealing with human-interest issues for their readers'.⁴³⁹ One of the most popular health columnists in post-war America was San Antonio-born Dr Lawrence Lamb, who wrote a weekly syndicated column which focussed on a number of health problems, including adolescent acne. Dr Lamb – who was best known for being the 'chief of medical sciences for the U.S. Air Force School of Aerospace Medicine crucial in developing the medical examinations that are used to select astronauts' – used his weekly syndicated column to help millions of American teenagers and their parents overcome usually minor health complaints.⁴⁴⁰ In Lamb's columns, acne became a recurring theme, with the physician regularly providing information to teenagers regarding the best antibiotics, creams and hygiene practices best suited to clear unsightly pimples. Lamb also received countless letters from adolescents both bemoaning the poor appearance of their skin and asking for ways to eradicate their acne once and for all:

Dear Dr Lamb. I am 14 years old. I read your column and it is helpful to me. I have a problem with my face and hair. My face breaks out. I would like to know how to get rid of pimples and blackheads. My face and hair are very oily and I can't seem to solve the problem. Can you please help me?⁴⁴¹

Dear Dr. Lamb. I am 15 and am very concerned about my face. I get whiteheads and many blackheads on my nose. I am fairly good looking for a guy but I don't think my face is going to help me by breaking out. I am concerned and you are my last try. I would also like to know if worry causes pimples?⁴⁴²

⁴³⁹ Marlene Frances Simmons, 'The Medicalization of Menopause: Framing Media Messages in the Twentieth Century', PhD Thesis, University of Maryland, 2008. Available here:

<http://drum.lib.umd.edu/bitstream/handle/1903/8352/umi-umd-5616.pdf;jsessionid=76F2D95A0EC892F93BE925015ED0C357?sequence=1>, Accessed 4 January 2019.

⁴⁴⁰ "'Ask Dr. Lamb' columnist dead at 88', *My San Antonio*, (13 July 2015)

<http://www.mysanantonio.com/news/local/article/Ask-Dr-Lamb-columnist-dead-at-88-6381762.php>, Accessed 4 January 2019. According to an article published in the *San Antonio Express* in 2015, Lamb's column was highly influential in that it was 'dispensing advice on healthy living and common medical ailments to a U.S. president and millions of Americans' long before television personalities such as Dr Mehmet Oz began influencing the American public on how important diet and exercise were for their general health. Elizabeth Zavala, 'Renowned doctor to Apollo astronauts dead at 88', *San Antonio Express News* (July 2015).

⁴⁴¹ 'Ask Dr Lamb: Acne Can Be Treated', *The Nevada Daily Mail* (10 May 1977), 4.

⁴⁴² 'Ask Dr Lamb: Acne Problems', *The Prescott Courier* (23 September 1977), 4.

As well as using medical columns to disseminate advice on how to treat acne, dermatologists, beauty and science writers frequently published articles in magazines popular with teenage acne sufferers' parents. In a 1962 article written by Lucile D. Kirk, the beauty editor of *Parents' Magazine & Better Homemaking* (Figure 30), parents were provided with advice on how to treat their children's acne at home. Describing three general rules which applied to skin care, Kirk suggested that parents ordered their children to 'be clean, be gentle, and be restrained in the use of cosmetics'.⁴⁴³ Being clean meant taking proper care of the skin, hands, hair and scalp. Using any dirty equipment was prohibited, with Kirk recommending that parents purchase new face cloths, towels and combs. Urging parents to adopt a strict no picking or squeezing policy within the house, readers were advised to throw away magnifying glasses and mirrors which had the tendency to show up any slight imperfection of the skin. In addition, Kirk identified dandruff as being particularly irritating to adolescents' complexions. Principally targeting the parents of female adolescents, Kirk endorsed the use of medicated soaps and skin cleansers, cautioning against the temptation to scrub one's face as this could lead to irritation of the skin. Kirk also recommended that parents teach their teenage children how to 'use cosmetics wisely'. Along with using special creams and lotions on particularly oily skins, adolescents suffering from acne would reap the benefits from powdering their faces, applying a minimal amount of lipstick and using their eyebrow pencil to shape their eyebrows.⁴⁴⁴

⁴⁴³ Lucile D. Kirk, 'Teen-age Skin Care', *Parents' Magazine & Better Homemaking* (10 August 1962), 96.

⁴⁴⁴ Ibid.



Figure 30 ‘Teen-age Skin Care’.⁴⁴⁵

Dermatologists also used questionnaires to further their knowledge about adolescent acne. In 1972, dermatologists Geoffrey W. Emerson and John S. Strauss sent a questionnaire to five suburban high schools in the greater Boston area. The questionnaire, which was circulated to male and female students in the 10th, 11th and 12th grades, was designed to help gain a greater understanding of issues such as the prevalence of acne amongst this cohort, whether seasonal changes affected the severity of acne and collate data about the treatments used to combat the problem. Completed by 1,023 students, 871 students identified as having acne of which 659 classified their acne as mild, 193 as moderate with only 19 believing it to be severe.⁴⁴⁶ Whilst

⁴⁴⁵ Ibid. Later articles on acne published in *Parents' Magazine & Better Family Living* featured prolific medical science writers like Stanley L. Englehardt. Writing in the 1970 October edition, Englehardt, the writer of over 800 health related magazine features and author of nine self-help books, educated parents on the scientific breakthroughs in medical science which had enhanced health professionals' knowledge on the skin condition. Explaining that, in all probability, acne was caused by an 'overproduction of sebum or oil discharged from the sebaceous glands in the skin', using straightforward language, Englehardt described how the oil thus blocked the ducts leading to the surface of the skin, which often lead to the formation of blackheads and pimples. Stanley L. Englehardt, 'IF YOUR CHILD HAS ACNE: Don't wait for him to outgrow it-- there's a lot that can be done to clear up this troublesome condition', *Parents' Magazine & Better Family Living* 45 (October 1970), 64-65.

⁴⁴⁶ Geoffrey W. Emerson and John S. Strauss, 'Acne and Acne Care A Trend Survey', *Arch Dermatol* 105 (1972), 407-411. For other examples of dermatologists using questionnaires to 'help uncover the reasons for

there was no difference in the prevalence of acne ‘in either sex or age group’, 445 students reported that their acne improved seasonally. While more girls reported that their skin improved during the summer months, some male students believed that their skin improved during the fall and winter months. Despite marked medical concern about acne, the survey revealed that nearly eighty-eight per cent of participants who had identified as having acne ‘had never been to a physician’, with 648 respondents disclosing that they ‘felt their acne was not severe enough’ to warrant medical attention. Although the majority did not believe their acne warranted medical attention, 365 of the students with acne admitted avoiding certain foods with over forty-six per cent of female acne sufferers restricting foodstuffs to improve the health of their skin. While most of the respondents did not consult a physician, the questionnaire found that ‘those with acne sought treatment early’ and, in total, had used a total of 117 different anti-acne products to treat their skin. As well as generating essential data on the ‘epidemiologic and therapeutic aspects of acne’, Emerson and Strauss claimed that the findings were essential reading for ‘the practicing physician who only sees a small proportion of the adolescent population with acne’.

The Social Repercussions of Acne

Medical concerns about the psychological scars of acne were magnified by the media. Stanley Cohen’s seminal publication *Folk Devils and Moral Panics* (1972) explained how ‘a condition, episode, person or a group of persons emerges to become defined as a threat to societal values and interests; its nature being presented in a stylised and stereotypical fashion by the mass media’.⁴⁴⁷ Considering the mass media’s influence in spreading fear and panic amongst the

acne flares or failures in response to treatment’ see: Jere D. Guin, Joseph A. Witkowski and Lawrence Charles Parish, ‘The Acne Questionnaire’, *Int J Dermatol* 19 (1980), 36-37.

⁴⁴⁷ Stanley Cohen, *Folk Devils and Moral Panics* (London: Routledge, 1972), 9. For more on how society has historically feared and reacted to those with visible signs of illness and disability, see: Sander Gilman, *Disease and Representation: Images of Illness from Madness to AIDS* (New York: Cornell University Press, 1988).

public with regards to the outbreak of AIDS, sociologist Kenneth Thompson has argued that ‘an important consideration is the way in which a succession of illnesses are given a moralistic meaning that stigmatises the victim as a pariah or social deviant; this moralising process increasingly accomplished through representations in the mass media’.⁴⁴⁸ Although on a much smaller scale than the moral panics created about AIDS, acne, too, was constructed as a real threat to the social order. In 1958, for example, during one of his syndicated ‘Worry Clinic’ columns, psychologist and physician George W. Crane warned how high school student acne sufferers:

may strike back at society in a vengeful manner, figuring they got a raw deal. In the latter case, many juvenile delinquents are violating laws and causing trouble for our faithful policemen, just because those kids have pimply complexions. For a lot of crime is based on an attempt by scarred patients to compensate psychologically for their imagined ostracism by society.⁴⁴⁹

According to journalist Ann Anderson, ‘newspapers exaggerated the threat of juvenile delinquency and cops treated first time offenders like hardened felons because they were everything adults feared about the new teenage culture’.⁴⁵⁰ The link between acne and anti-social behaviour mirrored earlier infamous connections between physiognomy and criminality, not least the work of Italian physician Cesare Lombroso.⁴⁵¹ Lombroso theorised that criminals were recognisable by certain physical traits and defects which distinguished them from normal, law abiding citizens. Influenced by Charles Darwin’s theory of evolution, Lombroso believed that criminals ‘exhibited numerous anomalies in the face, skeleton, and various psychic and sensitive functions, that they strongly resembled primitive races’.⁴⁵²

⁴⁴⁸ Kenneth Thompson, *Moral Panics* (London: Routledge, 1998), 70.

⁴⁴⁹ George W. Crane, ‘The Worry Clinic: Help IS Sought By Girl With Acne’, *Lakeland Ledger* (26 March 1958), 3.

⁴⁵⁰ Ann Anderson, *High School Prom: Marketing, Morals and the American Teen* (London: McFarland & Co, 2012), 38.

⁴⁵¹ Gina Lombroso and Cesare Lombroso, *Criminal Man: According to the Classification of Cesare Lombroso* (New York: Putnum, 1911), 3.

⁴⁵² Imogene Moyer, *Criminological Theories: Traditional and Non-Traditional Voices and Themes* (London: Sage Publications, 2001), 32.

Sociological and criminological studies backed up the media's interest in the physical characteristics of the archetypal juvenile criminal. In one study investigating physical disfigurement and juvenile delinquency, criminal psychopathologist Ralph S. Banay claimed the present type of juvenile criminal was a 'shy youngster with a slight physical defect: a nose that's too big, eyes of two different colours, crossed eyes, acne, a disfiguring birthmark, or a club foot'. Such physical deformities had the potential to lead to criminal acts such as burglary, fraud or even murder.

Specifically, in 1943, Banay highlighted the murder of a well-known executive. The murderer was a fifteen-year-old boy severely disfigured by acne. As a result of his disfigurement, he refused to see anyone, preferring to sleep during the day and walk the streets at night, his deformities hidden under the cover of darkness. Friendless and lacking employment, he supported himself financially by engaging in a series of armed robberies, one of which turned deadly. Upon threatening his victim with a gun, the boy was surprised to come up against stern resistance. In a state of panic, the boy shot the victim dead. He was soon caught and executed for his crime. In another case, Banay discussed 'an eighteen-year-old boy with a pock-marked face' who descended into a life of crime. When the boy was fifteen he suffered from an attack of chicken pox, resulting in permanent scarring. Mistaking the outbreak for a flare up of acne that would eventually clear up, he moved to New York to enrol in the Coast Guard only to be turned down and told by the head of city employment services that 'no employer would hire a man whose face would only repulse customers and co-workers' – a revelation which led to him committing armed robberies on several grocery stores.⁴⁵³

⁴⁵³ Ralph S. Banay, 'Physical Disfigurement as a Factor in Delinquency and Crime', *Fed Probat J* 7 (1943), 21.

Examining some of the headlines from articles published in American newspapers from the 1940s onwards is revealing of the importance the media placed on not only having clear skin, but of maintaining an increasingly sought-after flawless complexion. In 1948, for instance, the *Streetwater Reporter* published a feature article written by Dr Edwin P. Jordan – the Executive Director of the American Association of Medical Clinics – describing the social ramifications of teenage acne. Written for the Newspaper Enterprise Association (the feature syndicate that sold feature articles to newspapers throughout America), in bold lettering, the headline screamed ‘ACNE CONDITION HAS SERIOUS SOCIAL EFFECT ON ADOLESCENTS’. Although Jordan claimed that acne was neither life threatening, nor damaging to sufferers’ general health, he noted that the significantly high ratio of teenage male and female sufferers made the problem more serious than was generally realised. In Jordan’s view, it was during this period that ‘shyness reached its peak’, warning that, as a result, teenagers suffering from ‘acne of the face’ became terribly self-conscious and often stayed away from their friends and social events ‘just because of over-sensitivity about their appearance’.⁴⁵⁴ In the last paragraph of his article, Jordan, in no uncertain terms, thus urged teenagers to toughen up and ‘make a special effort’ to attend social gatherings:

A youngster with acne should make a special effort to overcome this self-consciousness and should force himself or herself to take part in all social functions. In addition to seeking proper advice and following it, the condition should be ignored when social functions are concerned.⁴⁵⁵

In this case, instead of allaying teenagers’ fears about having acne, Dr Jordan adopted a tough love approach and informed impressionable teenagers that their only hope of overcoming their nervousness was forcing themselves to attend what terrified them the most – social interaction.

⁴⁵⁴ Edwin P. Jordan (Written for NEA Service),k ‘ACNE CONDITION HAS SERIOUS SOCIAL EFFECT ON ADOLESCENTS’, *Streetwater Reporter* (9 October 1948), 17.

⁴⁵⁵ Ibid.

The efforts of sociologist Frances Cooke Macgregor also highlighted the social and psychological ramifications of facial deformities after the Second World War. In recent years, Macgregor has been credited ‘as the first scholar to document the major social and psychological stresses of patients who suffer facial disfigurement through birth, accident, disease or war’.⁴⁵⁶ In 1951, Macgregor published a paper describing some of the psychosocial problems experienced by people with facial deformities. MacGregor claimed that people with diseased or scarred faces often faced the stereotype that they had led an immoral life. Frequently ridiculed and avoided, they risked becoming social outcasts. ‘Physical handicaps’, such as acne, a twisted nose or facial scarring essentially acted as barriers to the privileges and opportunities enjoyed by the unscarred.⁴⁵⁷

The problem of acne continued to be a source of anxiety for health professionals in the 1960s. Dr Lilis F. Altschuler (Figure 31) of the University of Cincinnati College of Medicine echoed many of George W. Crane’s earlier findings when he claimed that antisocial behaviour could indeed be traced to acne. In Altschuler’s experience working with offenders at the Cincinnati Juvenile Court, he found that acne contributed to truancy, antisocial behaviour and sexual delinquency. Altschuler explained how dealing with juvenile offenders who suffered from physical defects, including acne, required ‘a team approach involving other agencies of the court’. Discussing the case of a fifteen-year-old boy referred to the court for shoplifting and truancy, the team concluded that his failure to attend school regularly was likely due to his severe acne. In another case, the inappropriate sexual behaviour of a fourteen-year-old girl was blamed on her anxiety and feelings of inferiority regarding her poor skin condition. After successful treatment both adolescents’ poor behaviour markedly improved. Altschuler happily

⁴⁵⁶ Myrna Oliver, ‘Frances Macgregor, 95; Social Scientist’, *Los Angeles Times* (8 February 2002), <http://articles.latimes.com/2002/feb/08/local/me-frances8>, Accessed 10 July 2019.

⁴⁵⁷ Frances Cooke Macgregor, ‘Some Psycho-Social Problems Associated with Facial Deformities’, *Am Sociol Rev* 16 (1951), 629-38.

reported that the young man attended school more regularly and the girl graduated, later holding down a responsible job. In describing the girl's delinquent behaviour, it is noteworthy that Altschuler proposed a causal link between her promiscuous behaviour and the onset of her acne.⁴⁵⁸ During this period many teenage boys and girls were said to have 'rejected traditional standards of sexual morality that forbade sex outside of marriage, and embraced the "sexual revolution" – the popular movement that equated sexual freedom with personal liberation'.⁴⁵⁹ Despite there being a notable shift in youth attitudes towards sex in the late 1960s, Altschuler's fears about acne and promiscuity echoed post-war anxieties about youth culture and sex.⁴⁶⁰

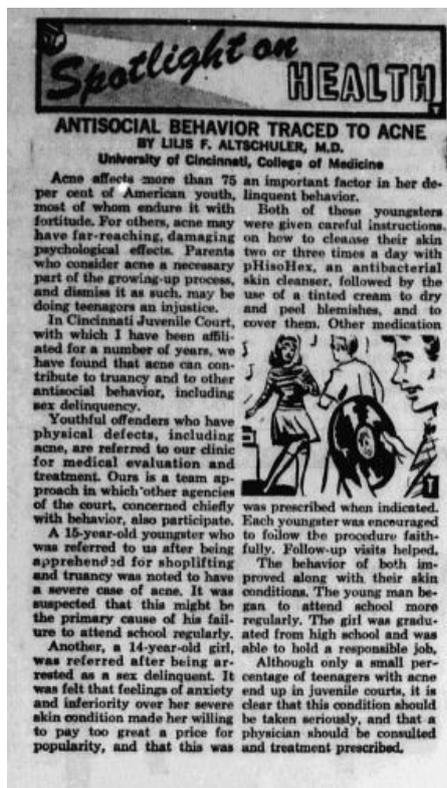


Figure 31 'Antisocial Behaviour Traces to Acne'.⁴⁶¹

⁴⁵⁸ Lilis F. Altschuler, 'Antisocial Behaviour Traced To Acne', *Bastrop Advertiser and Bastrop County News* (24 October 1968), 12.

⁴⁵⁹ Carolyn Bronstein, *Battling Pornography: The American Feminist Anti-Pornography Movement, 1976–1986* (Cambridge: Cambridge University Press, 2011), 25.

⁴⁶⁰ Patrick Jamieson, and Daniel Romer, *The Changing Portrayal of Adolescents in the Media Since 1950* (Oxford: Oxford University Press, 2008), 43.

⁴⁶¹ Altschuler, 'Antisocial Behaviour Traced To Acne', 1968.

The opening of several American acne clinics also signified that the medical establishment were taking the condition seriously. Although the majority of acne clinics set up offered treatment to white, American adolescents, there were exceptions. In the 1950s, cosmetic surgeon Harold E. Pierce set up the ‘West Park Clinic in West Philadelphia, a dermatological practice that focussed on African Americans’.⁴⁶² Pierce spoke of the dermatologist’s practice as being a ‘luxury’, with the majority of the 3500 dermatologists in the US located in highly developed and largely white urbanised areas. Pierce lamented the ease with which white teenagers, suffering from acne or other dermatological complaints, could locate a dermatologist and be seen straight away, compared to the plight of African American youth:

The white teen-ager, armed with his parents’ check book, by scouting around, can generally locate a dermatologist who will arrange an appointment for this patient right after school. Within a short time, his or her teen-age acne is controlled to the point of social acceptance and everyone is happy.⁴⁶³

Acknowledging the socio-economic disparities between the two groups, Pierce argued that there was a ‘dermatological gap which penalised black youth’. He set up a bi-weekly Teenage Acne Clinic at the West Park Clinic where he and his staff focussed on helping black youth combat their complexion problems. By doing so, they hoped the scheme would thus help reduce their hostility to the largely white medical profession by showing the youngsters that someone from outside their family circle cared about them and their dermatological problems. Pierce claimed that the Acne Clinic was determined to ‘reinforce the idea that indeed, “Black is Beautiful”’.⁴⁶⁴ Black youths attending the clinic were assigned individual appointments, at which they were examined and treated according to their personal requirements. Not only were

⁴⁶² Gayle Sims Ronan, ‘Harold E. Pierce Jr., 84, Dermatologist, Surgeon’, *Philly.com* (4 November 2006), http://articles.philly.com/2006-11-04/news/25406168_1_dermatology-medical-degree-surgeon, Accessed 10 September 2016.

⁴⁶³ Harold E. Pierce, ‘Dermatologic Involvement with Black Youth’, *J Natl Med Assoc* 63 (1971), 58.

⁴⁶⁴ *Ibid*, 59.

they given detailed educational material to help them understand the ‘intricacies of teenage acne’, but they also had the chance to compare notes with other acne sufferers and discuss their progress in a relaxed environment. Pierce ensured that the West Park Clinic offered their services (including both consultations, treatments and medications) free of charge to their 1500 black patients. The dermatologist argued that if more resources were assigned to treating black teenagers’ dermatological complaints then a ‘morale-uplifting capability value would be the result’. If dermatologists were as equally willing to treat acne in black teens as in white teens, it would help to reduce black drop-out rates, juvenile delinquency and hostility. Pierce believed that showing black teenagers that the medical profession cared could even contribute to reducing the number of black gang deaths in Philadelphia. Such claims underlined how well established the link between acne and social problems was by the 1960s.

In another significant move, some plastic surgeons again proposed a link between facial defects and criminality. In 1967, for instance, surgeons Frank Masters and David C. Greaves from the Department of Plastic Surgery at the University of Kansas Medical Centre revisited Lombroso’s theory. Although Masters and Greaves did acknowledge that there ‘was little objective scientific evidence’ available to prove a causal relationship between facial deformities and criminality, their studies did nonetheless find a significantly increased correlation between those suffering from facial abnormalities and their tendency to commit criminal acts.⁴⁶⁵ Referring to their concept as the “Quasimodo Complex”, it was claimed that those who are categorised as abnormal because they are suffering from acne, or other facial deformities, ‘understand the severity of their alienation, not by looking in the mirror, but by reading the reactions of fear and disgust in people who meet them’.⁴⁶⁶ Therefore, Masters and Greaves

⁴⁶⁵ Frank Masters and David C. Greaves, ‘The Quasimodo Complex’, *B J Plast Sur* 20 (1967), 204-210.

⁴⁶⁶ Carol C. Donley and Sheryl Buckley, *What’s Normal?: Narratives of Mental & Emotional Disorders* (Ohio: Kent State University Press, 2000), 3.

argued that if ‘anxiety, hostility, social withdrawal, and abnormal personality traits are produced by emotional reaction to physical deformity, the Quasimodo complex exists’. Working in cooperation with the police departments of Kanas City, St Louis, Baltimore, Miami and Los Angeles, Masters and Greaves analysed over eleven thousand photographs of offenders involved in criminal acts such as ‘suicide, homicide, rape, prostitution, and sex deviation’. Their analysis revealed that more than sixty per cent of those analysed had ‘surgically correctable facial defects’ compared to only twenty per cent found in the general public control group. While deformities of the ear and chin were the most commonly found malformation amongst the male offenders studied, deformities of the nose and severe acne scars dominated within the female category. While their study demonstrated that physical differences did indeed exist between the criminals studied and the general public, Masters and Greaves included the following disclaimer in order to potentially minimise any eventual criticism of their findings:

By no means can this be interpreted as any evidence that a given individual’s facial defect led him into a specific crime or that correction of the deformity might have prevented this crime or in any way limited his criminal activity.⁴⁶⁷

As well as acne being constructed as a threat to the American social order, dermatologists, physicians and nurses also raised concerns about acne inhibiting adolescents in both their social and professional lives. In 1951, for instance, nurse Margaret Reilly discussed the social problems associated with acne.⁴⁶⁸ In her discussions with fellow nurses, doctors and patients, Reilly found many people exhibited ‘an unreasonable fear of “catching” skin infections’. It was said that persons with visible skin lesions on the body often expected and regularly experienced rejection from other members of society – a phenomenon known as the ‘Leper Complex’. In medical literature, the ‘Leper Complex’ (a term coined by dermatologist Robert W. Mackenna

⁴⁶⁷ Ibid.

⁴⁶⁸ Reilly, ‘Juvenile Acne’, 269-271.

in 1944 following his experience treating sufferers of psoriasis) is thought to have ‘its origins in the human “race memory”’:

It was probably a protective response ensuring avoidance of contact with infected and infested individuals who had lice, scabies, leprosy and numerous other infective skin disorders.⁴⁶⁹

Scholars have argued that one of the biggest problems relating to the ‘Leper Complex’ is the response of neighbours and strangers when confronted by the visible sign of a skin condition, like acne. Feeling rejected by society, the sufferer of the skin complaint thus becomes self-conscious and often removes himself from society. Skin on the visible parts of the body such as the face, hands and neck is considered the “‘shop front” of the persona’. The ‘shop front’ is the means by which a person communicates with those around him and, when diseased or disfigured, he/she begins to feel humiliated and endangered. Because of strangers’ often negative reactions to skin conditions, it is therefore ‘important that medical staff – doctors, nurses, laboratory workers and administrators alike – do not confirm and reinforce the problems described’ when treating patients.⁴⁷⁰

Reilly’s concerns regarding the social and professional damage caused by acne were reflected in a number of studies. In 1941, for example, American psychiatrist Wallace Marshall investigated whether suffering from acne would hinder a young person’s ability to secure suitable employment. In order to aid his investigation, Marshall sent a questionnaire to forty well known firms comprising of hotels, department stores and restaurants. Despite only three store heads responding to the original questionnaire, in order to gain the desired information

⁴⁶⁹ Peter Dykes, Ronald Marks, and Richard Motley, *Clinical Signs and Procedures in Dermatology* (London: CRC Press, 1993), 253.

⁴⁷⁰ In 1970, William W. Zeller – Director of Psychiatric Education at the Institute of Living in Connecticut – claimed to have seen evidence that many youngsters suffering from plantar warts were ‘rejected at summer camps because of the fear that they might cause an epidemic in the camp’. William W. Zeller, ‘Adolescent Attitudes and Cutaneous Health’, *J Sch Health* 3 (1970), 115-120.

for his report Marshall arranged interviews with executives of large businesses who were responsible for the hiring of staff. Perhaps suggestive of the discriminatory employment practices characteristic of society during this period, all five interviewees admitted that they would be averse to hiring adolescent acne sufferers as they believed ‘their customers would be repelled rather than attracted to such individuals’.⁴⁷¹ In light of the findings, Marshall argued that the negative opinions expressed by such influential employers highlighted the emotional and economic handicaps that suffering from acne presented. One executive even confessed that they would not touch any object that an acne sufferer had touched out of fear that they would be contaminated and thus end up contracting the condition themselves.⁴⁷²

Conclusion

In the post-war period, acne was constructed as a threat to both the emotional well-being of teenage Americans and, ultimately, the social order of the US. Physicians, journalists, sociologists and criminologists warned of the significant impact having a disfiguring condition like acne could have on the psyche of the baby-boom generation. Paralleling the development of adolescent medicine and the worries about the mental health of Americans, acne was thus portrayed as an ailment with serious implications for society.

Renowned paediatrician, James Roswell Gallagher, and colleagues at the Boston Adolescent Unit, recommended that physicians adopt a holistic, patient-centred approach to adolescent

⁴⁷¹ Wallace Marshall, ‘The Psychology of the General Public with Regard to Acne Vulgaris’, *CMAJ* 44 (1941), 599-603.

⁴⁷² A 1972 article which featured in Dr Lawrence Lamb’s column served to validate many of the concerns raised by Wallace Marshall. Telling Dr Lamb the story of her daughter’s twenty-year battle with severe cystic acne, the woman stated that, despite her daughter having attractive features, ‘she became ugly in her own eyes’ with the condition ‘wreaking havoc with her heart’. Moreover, whilst she informed Dr Lamb that her daughter was now thirty years old and happily married, some of her comments on her daughter’s lack of job opportunities whilst growing up with severe cystic acne were especially enlightening: ‘Job openings where she would meet the public were closed to her, despite a very intelligent mind and college credits. Her teachers even tried to get her jobs, although employers anxious for business thought otherwise.’ ‘Ask Dr Lamb: Acne A Problem For Some Teens’, *The Tuscaloosa News* (18 Sep 1972), 6.

health problems, including acne. As well as recommending that drugs only be used as a last resort, the specialists urged doctors to avoid dismissing the problem, as acne had the potential to negatively impact adolescent sufferer's personality. Moreover, Gallagher and colleagues advised that establishing an understanding relationship with teenage patients was vital when treating the ailment, as it allowed doctors to better appreciate why the ailment caused the patients such high levels of anxiety. Gallagher warned doctors that perceived physical abnormalities like acne had the potential to cause adolescents to become 'emotionally disturbed'. Whilst stress was believed to be a contributory factor in causing acne, Gallagher had his own theory why this was the case: The Cold War. In his view, the struggle between 'East and West' resulted in teachers, parents, ministers and the media placing an inordinate amount of pressure on the teenage population. The added stress therefore resulted in increased levels of ailments like acne which were believed to be psychosomatic in nature.

Growing alarm regarding the impact acne could have on adolescents' mental health led to physicians and dermatologists initiating several strategies for raising awareness about the condition, disseminating advice and engaging with teenage acne sufferers. As well as opening several acne clinics dedicated to treating the condition, doctors engaged with sufferers using medical columns, newspaper features and questionnaires. Whilst medical columns and magazine articles were often designed to offer adolescent acne sufferers reassurance, questionnaires were an important resource for allowing dermatologists to increase their knowledge and collate data about acne's prevalence, treatments used amongst this cohort and issues such as whether seasonal changes affected the severity of the condition.

Finally, due to the heightened concern about the mental health problems affecting the teenage population following the Second World War, the concerns about acne were also linked to wider

cultural anxieties about youth mental health, juvenile delinquency, sexual promiscuity and racial unrest. Responding to such concerns, physicians and dermatologists turned to a range of different pharmaceutical treatments that promised to lessen both the aesthetic and psychological impact of adolescent acne. As Chapter 5 demonstrates, while the pharmaceutical industry fuelled adolescents' fears regarding the social and moral implications of acne, physicians and dermatologists responded by employing a range of invasive therapies as treatment.

‘We’ll fight back with you’: Anti-Acne Therapeutics in Post-War Society

WHAT YOU CAN DO ABOUT PIMPLES

Acne, Blackheads, and other externally caused Skin Blemishes



WHEN pimply skin is your problem, the first thing to get straight is that you *can* and *should* do something about it. To develop the attractiveness of your face is not mere vanity. It is an “open sesame” towards bringing the real **YOU** closer to other people and giving your personality the poise and confidence it needs. Your good qualities – intelligence, character, dignity – all go to naught... are completely cancelled out by a skin that “nobody loves to touch.” Remember, the **YOU** that people see first is your face.

SKIN PROBLEMS DEMAND IMMEDIATE CARE

Medical statistics tell us that blemished skin usually occurs from adolescence on through adult life. The problem at the **adolescent** stage is serious enough to deserve attentive care as a family matter. In

MICROSCOPE SHOWS IMPORTANT BASIS FOR EXTERNALLY CAUSED PIMPLES AND BLACKHEADS

Let's take a look through the microscope to see what's behind those unsightly pimples. The high-powered lenses show your skin coated with a covering which originated from two sources—one, internally and the other, externally.

The internal substances on your skin include dead cells, residue from the sweat glands, and a high quantity of oil excreted by the sebaceous glands. A most important factor in skin disorders occurs when thousands of these tiny sebaceous glands discharge more oil than the skin can use for lubrication. Unless special care is given, the oil forms a heavy film which attracts foreign matter to your skin much as any oil mop picks up dust. These infectious external substances may be classified into three general groups:

1. Airborne materials such as dust, pollens, condensation products of smoke, vapors, etc.
2. Materials brought in contact with the skin, such as tiny fragments of clothing, bedding, cosmetics.
3. Micro-organisms such as bacteria and fungi.

See the difference between a healthy skin and a pimply skin in the microscopic

view. The microscope shows the numerous bacteria often associated with externally caused pimples and blackheads.

BLEMISHES COVERED UP

To remove the distressing embarrassment of these skin blemishes, the second Dornol formula exerts a “cover-up” action on your broken out skin while the medication does its work. This, plus its pleasant odor, will spare you the mental distress which is associated with unsightly, malodorous, medicated preparations. Imagine! You can apply this Dornol formula to your skin by day and face the immediate present with greater confidence in your appearance, while secure in the knowledge that medication is acting to remove old blemishes and keep away new ones. What this “cover-up” action alone is worth in peace of mind is beyond calculation. No longer need prying eyes make you wince with humiliation and misery. Now because of this wonderful feature of the Dornol treatment, you can put your best foot forward... at once!

SATISFACTION GUARANTEED OR DOUBLE YOUR MONEY BACK

Figure 32 ‘What You Can Do About Pimples’.⁴⁷³

In March 1950, a full-page advertisement for Dornol medicated skin cream was published in *Science* magazine (Figure 32). The advert – which reassured adolescent readers that ‘developing the attractiveness’ of their face was not ‘mere vanity’ – claimed that bad skin cancelled out teenagers’ good qualities such as ‘intelligence, character and dignity’. Claiming that ‘skin problems demand immediate care’, the advert detailed what scientists witnessed when examining ‘sick, pimply skin’ under the microscope. The advert described how acne pimples

⁴⁷³ ‘Advertisement for Dornol medicated skin cream’, *Science* (March 1950), 30.

form when sebaceous glands become a ‘swollen mass of trapped oil, waste and infectious bacteria’. The solution to the problem was clear: Dornol medicated skin cream. The cream promised ‘two different formulas’ to rid the skin of infectious bacteria and ‘externally caused pimples and blackheads’, and subsequently offered potential customers a money back guarantee if they were not satisfied.

In the post-war period, advertisements promoting anti-acne products frequently stoked adolescents’ fears about having pimpled skin and offered simple solutions. Manufacturers of anti-acne products targeted the lucrative teenage market, while doctors and dermatologists embraced new drugs and surgical procedures which promised to improve not only blemished skin but also the mental health of acne sufferers. The quest to cure acne also meant that acne sufferers were exposed to potentially deadly drugs, some of which were tested on vulnerable groups.

This chapter begins by examining the marketing strategies used by manufacturers of anti-acne products, with special emphasis on how these advertisers stressed the moral and psychological implications of acne. It then proceeds to explore the variety of prescription drugs used during the post-war period to combat acne. Although new antibiotics offered clinical benefits, physicians frequently expressed concern over side effects, the drugs’ potential to mask serious sexually transmitted diseases (STDs) like gonorrhoea and the aggressive marketing strategies employed by drug companies. The chapter then examines the plethora of treatments used by physicians to reduce the mental anguish associated with acne, including tranquilisers, anti-depressants and even hypnotherapy. It concludes by discussing the search for a therapy which would dramatically reduce sebum output and dermatologists’ shift towards using potent retinoids to treat acne.

Spurred by rapid economic growth, the cosmetics and skincare industries recorded huge sales during the post-war period, with consumers spending \$1.4 billion annually on products such as ‘makeup, fragrances, skin-care products and toiletries’ by 1957.⁴⁷⁴ Historian Kathy Peiss has argued that the main target of the beauty industry’s advertising campaigns was women: the ‘illustrated ads with images of flawless beauty, making consumption integral to achieving the feminine ideal and directing attention to both facial surfaces and psychological depths’.⁴⁷⁵ Although women represented the largest portion of the post-war skin care and cosmetics sales, manufacturers also identified teenagers as another potentially lucrative market. In a 1944 *Life* magazine article examining the growing influence of ‘Teen-Age Girls’, for example, the reporter informed readers that ‘American businessmen, many of whom have teen-age daughters, have only recently begun to realize that teen-agers make up a big and special market’. As a result of more employment opportunities and higher wages, young adults were able to afford more stylish clothes and cosmetic products, with adolescents now helping to set new trends in fashion and beauty.⁴⁷⁶ In the 1950s, the use of cosmetics was said to have become ‘linked to questions of identity’.⁴⁷⁷ For many young women, the years between adolescence and womanhood were a period of experimentation regarding their appearance. As the beauty and cosmetic industry offered women the tools for self-discovery in the form of lipsticks, make-up, skin-care creams and a choice of fashionable hairstyles, the increasing presence of television sets in the household setting also brought Hollywood beauty ideals and notions of femininity into the private sphere.⁴⁷⁸

⁴⁷⁴ Nancy Koehn, ‘Estee Lauder: Self Definition and the Modern Cosmetics Market’, in Philip Scranton (ed.), *Beauty and Business: Commerce, Gender, and Culture in Modern America* (New York: Routledge, 2014), 217-254. According to Koehn, this figure was an increase from \$758 million in 1946.

⁴⁷⁵ Peiss, *Hope in a Jar*, 247.

⁴⁷⁶ Bill Osgerby, ‘Understanding the “Jackpot Market”’: Media, Marketing, and the Rise of the American Teenager’ in Patrick Jamieson and Daniel Romer (eds), *The Changing Portrayal of Adolescents in the Media Since 1950* (Oxford: Oxford University Press, 2008), 27.

⁴⁷⁷ Ann T. Allen, *Women in Twentieth-Century Europe* (London: Palgrave Macmillan, 2007), 91.

⁴⁷⁸ Peiss, *Hope in a Jar*, 246.

In response, an array of skin care and acne creams were introduced during this period. In 1951, alongside his chemist friend, Kedzie Teller, inventor and marketer Ivan D. Combe attempted to fill a void in the area of acne therapeutics by developing an affordable acne treatment targeting the teenage market.⁴⁷⁹ Branded as Clearasil, Combe marketed his product to both teenage boys and girls through magazines such as *Boys Life* and *Seventeen*, as well as the hugely popular television show, *American Bandstand*. In one televised advert, for example, a teenage boy called Eric is seen talking to himself in the bathroom mirror. Lamenting the embarrassment he endures as a result of his blemished skin, he gives an impassioned speech promising to do everything in his power to clear his skin of acne once and for all:

ERIC...I'll tell it like it is.... I'm sick of looking at you! The same old broken out, bad news skin. I'm fed up to here [raises his hand above his head then looks down to tube of Clearasil]. Clearasil... You're on! You say you're the serious blemish medicine? Well, you can't be any more serious than I am...I'm gonna watch what I eat! Drink lots of water! Keep myself clean! [he holds up Clearasil to the mirror] and use this every day!⁴⁸⁰

As Eric first pumps the air in determination an authoritative adult male voice over cuts and declares:

That a boy, Eric! We'll fight back with you. We are serious about helping you with your blemish problem. Use Clearasil regularly, all over your face and on extra blemishes you have. Clearasil works fast to help clear today's acne blemishes, drinks up excess oil and helps control tomorrow's blemishes. Eric is getting serious help and now Clearasil has two ways to help him. Flesh tone hides while it works, while white vanishing works invisibly.⁴⁸¹

⁴⁷⁹ Nick Ravo, 'Ivan D. Combe, 88, Marketer of Clearasil and Just for Men', *New York Times* (17 January 2000). Combe also invented well-known brands like anti itch cream Lanacne, Vagisil, Odour-Eaters and Just for Men hair dye.

⁴⁸⁰ Clearasil Advert featured on *American Bandstand*, 1968. Available at https://www.youtube.com/watch?v=qmqle0M_Pt0, Accessed 25 June 2016.

⁴⁸¹ *Ibid.*

It is worth noting that in Eric's speech, Clearasil is not represented as a cure-all for acne, but instead as an adjunct therapy. Eric says that he is going to watch his diet, drink more water and improve his hygiene. While the advertisers of Clearasil emphasised the science behind their product, their readiness to use theories that had no scientific foundation was especially noteworthy. Although the role of diet in causing acne had long been a popular belief amongst many sufferers, contemporary medical research failed to find a definitive link between poor dietary habits and adolescent acne. Similarly, personal cleanliness had also been mooted as being a potential cause, but this theory had also been questioned.⁴⁸²

Clearasil was endorsed by Marcella Holmes (Figure 33), the former Beauty Editor of *Glamour Magazine*. Rubbishing the benefits of competing creams and ointments which claimed to have a multi-purpose effect on the skin, Holmes claimed that Clearasil was specifically created to combat pimples. Clearasil was 'skin - coloured' in order to conceal inflammatory acne pimples while it worked on eradicating pustules. Moreover, the 'noted authority on beauty' referenced a *Reader's Digest* report in which the magazine discussed the clinical tests carried out on Clearasil before the release of the medication.⁴⁸³ Throughout their advertising campaigns, the manufacturers of Clearasil were careful to adapt their approach depending on their specific target audience. For instance, adverts for Clearasil which were placed in *Ebony* magazine – predominantly aimed at the African American market – always featured models endorsing Clearasil who were attractive and smartly dressed, their clear skin presented as one of their most striking features (Figures 34 and 35).

⁴⁸² In 1962, Surrey-based general physician, Dr John W. Todd, took umbrage at a colleague's recommendation that 'common sense cleanliness, some degree of exfoliation by appropriate lotions, pastes, or by ultra-violet radiation, will achieve much success'. In the correspondence pages of the *BMJ* Todd declared: 'This is the kind of advice which used to fill the textbooks when there was no useful treatment. What is "common-sense cleanliness"? Is there evidence that any degree of cleanliness benefits the subjects of acne? I feel sure that your readers would be interested in the answer to these questions – I know I am, etc'. John W. Todd, 'Treatment of Acne', *BMJ* 2 (1962), 343.

⁴⁸³ 'Clearasil Advertisement', *Chatelaine* 27 (April 1954).

Voted Beauty Authority Advises (Advertisement)

"Don't Fool With Pimples"

by MARCELLA HOLMES
(Former Beauty Editor of "Glamour" Magazine)



"As a beauty editor many people have asked me, 'what should I do for pimples?' I always say, don't try just anything on them! Acne-type pimples are a serious condition that if neglected can permanently mar your looks. So use a medication specifically developed for pimples, and not multi-purpose skin creams or ointments that are claimed to be 'also good for pimples.'

"You see, general purpose creams and ointments do not provide in a fast-drying greaseless base the special medical ingredients so necessary in the treatment of pimples. But fortunately, today, there's a scientific medicated formulation developed especially to clear pimples, that has proven its effectiveness in actual use by thousands in Canada and the U. S. This new formulation is called CLEARASIL.

New-Type Greaseless "Base"

"The special medications in the CLEARASIL formula are contained in a new-type oil-free 'base.' This new 'base' material is not only greaseless but is also oil-absorbing, actually helps remove excess oil from skin that au-

thorities agree is a major factor in acne. In fact, CLEARASIL has such remarkable *drying action* that it clears and dries pimples surprisingly fast.

"CLEARASIL is *antiseptic*, stopping growth of bacteria that may cause and spread pimples. And since it is non-greasy, stainless, it may be left on day and night for uninterrupted medication.

Skin-Colored—Hides Pimples

"This new CLEARASIL medication is skin-colored to hide pimples while it works, and to end the embarrassment of pimples instantly.

"So again I advise, don't fool with pimples. General purpose creams and ointments have their proper uses, but don't depend on them for treatment of pimples. Treat this specific condition with a *special* pimple medication."

Reader's Digest reported on clinical tests using CLEARASIL type medication. CLEARASIL has helped so many boys, girls and adults that it is now the largest-selling special pimple medication in America. It must work for you or money back. Only 69¢. Large economy size \$1.19. At all druggists. Get CLEARASIL today.

Figure 33 'Don't Fool With Pimples'. 484

"Who'd believe I was ever embarrassed by Pimples!"



DOCTORS' SCIENTIFIC FORMULA

'STARVES' PIMPLES

Hides pimples while it works

CLEARASIL is the new-type medication especially for pimples. Clinical tests prove it really works. And now CLEARASIL is also available as a smooth, soothing Lotion in handy squeeze-bottle! In Tube or Lotion, CLEARASIL gives you the medications prescribed by leading skin specialists.

WHY CLEARASIL WORKS FAST

Figure 34 'Who'd believe I was ever embarrassed by pimples!'⁴⁸⁵

⁴⁸⁴ Ibid.

⁴⁸⁵ 'Clearasil Advertisement', *Ebony* (April 1960).

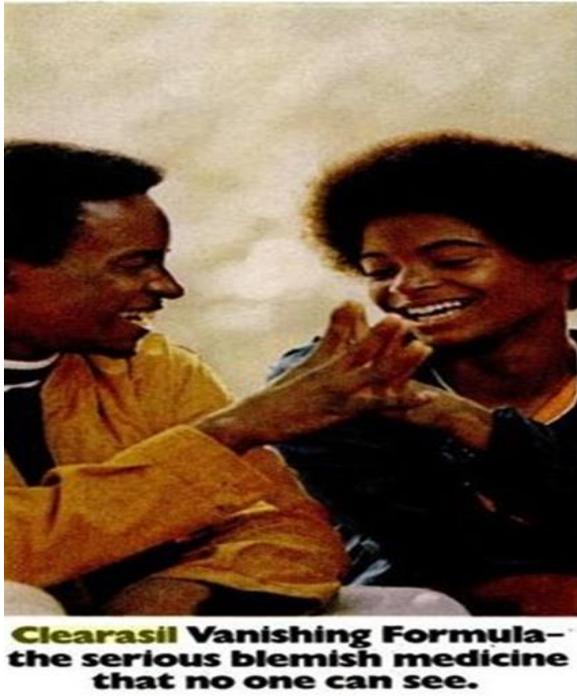


Figure 35 'Clearasil Vanishing Formula'.⁴⁸⁶

⁴⁸⁶ 'Clearasil Advertisement', *Ebony* (November 1971).

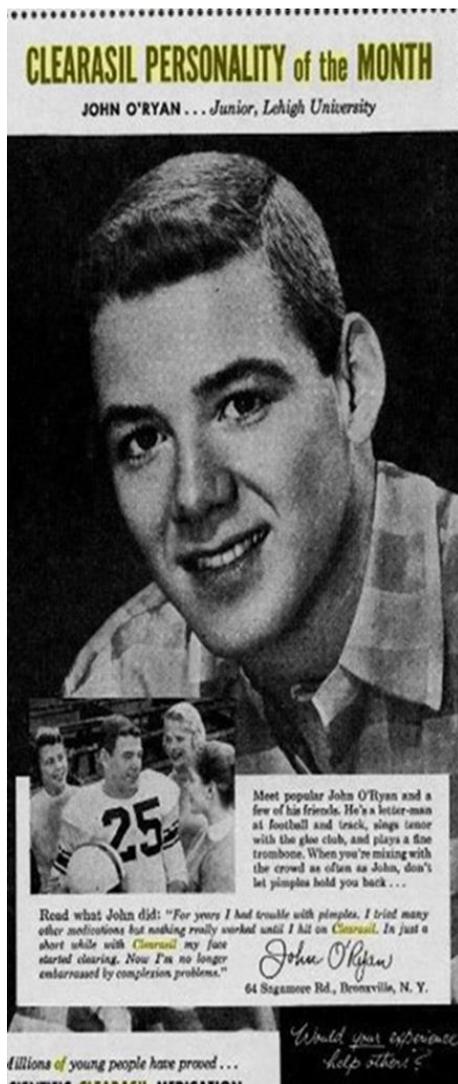


Figure 36 ‘Clearasil Personality of the Month’.⁴⁸⁷

The ‘Clearasil Personality of the Month’ campaign (Figures 36 and 37) featured both male and female acne sufferers who had used Clearasil and were only too happy to express its miraculous benefits. For instance, the 1957 November edition of *Boy’s Life* featured ‘popular’ John O’Ryan, describing how Clearasil had taken care of his ‘complexion problems’:

For years I had trouble with pimples. I tried many other medications but nothing really worked until I hit on Clearasil. In just a short while with Clearasil my face started clearing. Now I’m no longer embarrassed by complexion problems.⁴⁸⁸

⁴⁸⁷ ‘Clearasil Personality of the Month’ advert, *Boys’ Life* (November 1957), 77.

⁴⁸⁸ Ibid.

In this advert, acne represented a threat to one's level of popularity. John is identified as the archetypal high school jock; he plays American football and runs track. Pictured in his American football gear and surrounded by pretty girls engaging him in conversation, a now clear-skinned John appears confident and relaxed. Readers are reminded that 'when you're mixing with the crowd as often as John, don't let pimples hold you back'.⁴⁸⁹



Figure 37 'Clearasil Personality of the Month'.⁴⁹⁰

Like many other over-the-counter medicines' advertisements, Clearasil took a scientific approach when explaining why the product was the most beneficial treatment for acne.

⁴⁸⁹ Ibid.

⁴⁹⁰ 'Clearasil Personality of the Month' advert, *LIFE* 11 (November 1957), 95. The same marketing technique was used when advertising to teenage girls. In this advert (Figure 33 39?) the reader is introduced to Jean Marie Lussier who is described as a 'budding artist and writer'. The reader is also informed that Lussier is also going to drama school, thus implying that, to be successful, she had to take steps to eradicate her acne. At the bottom of every 'personality of the month' advert, a small description of Clearasil's scientific properties was attached.

Historian Nancy Tomes has argued that, ‘with the new doctors’ drugs now presenting a far stiffer kind of completion, over-the-counter medicines often chose to emphasise the convenience of their use and the speed with which they worked’.⁴⁹¹ The manufacturer’s decision to outline the scientific evidence that set Clearasil apart from its competitors was set amidst rising faith in medical science that existed within post-war society. Articles describing the ‘significant developments in medical science’ frequently appeared in both British and American newspapers detailing the inroads that were being made against life threatening illnesses such as cancer and heart disease.⁴⁹² The adverts for Clearasil described how the cream would help ‘starve’ pimples of bacteria, remove the excess oil that ‘feeds’ acne, ‘help people gain attractive clearer skin and be a more appealing personality’, whilst reassuring patients that skin specialists had approved of the cream. A ‘money back guarantee’ was offered if consumers were not satisfied. At the bottom of Clearasil’s “personality of the month” advert was an appeal calling for other previously ‘distressed’ acne sufferers to send in a recent ‘close up’ snapshot of their face and written description of their experiences of using the cream. Many teens responded, which allowed advertisers to be selective in their eventual choice; ‘personalities’ were almost always white, middle class students who had been wholly cured of their acne having dutifully followed their treatment plan.⁴⁹³

Other acne medications like Dorothy Perkins’ ‘Clear’ (Figure 38) implored consumers not to delay in purchasing their antiseptic anti-acne lotion. Along with warning patients that their ‘future happiness may depend’ on having clear skin, the marketers broadened their target market by informing readers that Clear had ‘been thoroughly tested by people of all ages’ –

⁴⁹¹ Nancy Tomes, *Remaking the American Patient: How Madison Avenue and Modern Medicine Turned Patients into Consumers* (Chapel Hill: University of North Carolina Press, 2016), 228.

⁴⁹² Editorial Page, ‘Medical Science Advances Rapidly’, *The Spokesman-Review* (28 June 1964).

⁴⁹³ Regan Rhea, ‘Teen Obsession: Competing Images of Adolescents in American Culture, 1945-1963’, PhD Thesis, University of Wisconsin--Madison, 2008, 230.

although they did report that teenagers had recorded the best results. As with Clearasil, Clear was not only advertised as a ‘convenient treatment’, but offered three important steps in eradicating stubborn skin complaints:

STEP ONE..... You condition the face by using CREAM 1 as directed.
STEP TWO... You saturate a cotton pad with LOTION 2 and wash the entire face and affected areas. This lotion contains TWO Miracle antiseptics. Dichlorophene and Hexachlorophene, to battle bacteria.
STEP THREE.... Apply LOTION 3 to entire face and affected areas. It soothes and relieves dryness and contain still another antiseptic, Polyvinylpyrrolidone which protects against surface bacteria.
All we ask you to do is use the treatment regularly every night. Don't delay, get CLEAR today and start CLEARING your face tonight.⁴⁹⁴



Figure 38 Dorothy Perkins' 'Clear'.⁴⁹⁵

⁴⁹⁴ 'Dorothy Perkins Clear advertisement', *The Wylie News* (6 October 1955), 6.

⁴⁹⁵ Ibid.

Another approach was offered by non-irritating soap Neutrogena (Figure 39). Invented by Belgium chemist, Dr Edmond Fromont, in the early 1950s, Neutrogena was set apart from its competitors as it was ‘clear, mild, and left no residue on the skin’, which was unusual in contrast to all the new and harsh deodorant soaps being developed to ‘sanitize’ and ‘kill bacteria’ during the period.⁴⁹⁶

Fashion Cocktail for Spring
 Take the finest of British fashions, a dash of French and a twist of Italian — for our special FASHION SHOWS on:
 Tuesday 4th March — 11 a.m. and 3 p.m.
 Wednesday 5th March — 11 a.m. and 3 p.m.
 Friday 6th March — 3 p.m. and 6 p.m.
 Saturday 7th March — 12 noon
 Please send a postcard marked 'Fashion Cocktail' to Simpson's (Piccadilly) Ltd., London W.1, giving your telephone number and the number of tickets you require for the show of your choice.
Simpson's
 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000

Dry skin needs deep moisturising
 To maintain a complexion free from dryness year after year, a daily application of Emollient Day-care is essential. Its special combination of emollients keeps skin smooth and soft, and prevents the formation of wrinkles. It is especially beneficial to dry, sensitive skin.
 Emollient Day-care is a complete moisturising treatment which is effective, refreshing and deliciously fragrant. Smoothly wash into your pores, leave your skin moist, softer and looking young and beautiful.
 Use Emollient Day-care as a special treatment to have a natural 'healthy look'.
Emollient Day-care

about face
 Neutrogena is the beauty treatment that **works** for your skin. It is a complete skin care system that cleanses, moisturises and protects your skin. It is gentle and effective, and is suitable for all skin types. Neutrogena is also recommended by dermatologists and is a proven skin care product.
 Neutrogena is also recommended by dermatologists and is a proven skin care product. Neutrogena is also recommended by dermatologists and is a proven skin care product.
Neutrogena
 SOAP SAMPLE OFFER
 To receive a free sample of Neutrogena soap, simply fill in the coupon below and send it to the address provided. Neutrogena is a registered trademark of Neutrogena, Inc. © 1968 Neutrogena, Inc. All rights reserved.

If you're on your legs 6 hrs a day
 Take the weight off your feet!
 Take the weight off your feet!
 Take the weight off your feet!

Figure 41 ‘Neutrogena’.⁴⁹⁷

President of the Neutrogena brand, Lloyd Cotsen, began advertising the soap to physicians and dermatologists in the 1960s by sending out free samples to health professionals. This approach paid off in the form of physician recommendations. Formidable Irish dermatologist, Martin Beare, for example, encouraged his colleagues to use Neutrogena when treating young children under one year of age because it did not ‘irritate when used in combination with the new steroid

⁴⁹⁶ Anon, ‘Skincare Made Simple: The Story of Neutrogena’, *Tampa Bay Magazine* (May-June 1989), 30.

⁴⁹⁷ ‘Neutrogena advert’ *The Times* (27 February 1968), 7.

preparations'.⁴⁹⁸ Other dermatologists who blamed acne on excessive grease on the skin claimed that degreasing was 'best achieved by thrice daily washing with Neutrogena acne cleansing soap'.⁴⁹⁹

In 1965, Canadian dermatologist Dr William Pace recognised the therapeutic potential of benzoyl peroxide for treating acne.⁵⁰⁰ In his clinical trials treating his patients with a combination therapy consisting of benzoyl peroxide and sulphur in an oil-based emulsion cream, Pace argued that when used topically the 'inexpensive medication consistently induced prompt suppression of acne lesions of all types'.⁵⁰¹ Although Pace expressed little interest in patenting his discovery and received no remuneration for his efforts, the pharmaceutical industry moved quickly to take advantage of the discovery.⁵⁰² Pace had identified benzoyl peroxide as the active ingredient in suppressing acne lesions, and competing pharmaceutical companies released higher quality and more enhanced products emphasising the chemical in the 1970s once 'formulation stability issues' had been overcome.⁵⁰³ During the early 1970s, American-based pharmaceutical company Stiefel laboratories was the first to release a benzoyl peroxide acne treatment called Benoxyl lotion. Other competitors like Norcliff Thayer (Oxy)

⁴⁹⁸ Martin Beare, 'Skin Conditions of Infancy and Childhood—I', *BMJ* 5428 (1965), 171-174; B. Gordon, 'Neglected Aspects in the Management of Acne', *J Roy Soc Med* 78 (1985), 1014. By all accounts, Dr John Martin Beare was a fascinating character. According to Hilary Lavery, Dr Beare was an 'eminent 20th-century dermatologist of enormous intellect'. Hilary A. Lavery, 'John Martin Beare, MD, FRCP (London) 13th January 1920-17th May 1998', *Clin Dermatol* 23 (2005), 644-648. Serving in the British Armed Forces as Surgeon Lieutenant and becoming orator for the prestigious dermatology club, the Dowling Club, in 1958, he also became 'president of the British Association of Dermatologists in 1984'. For more on Dr Beare's life and career see: Devereux and Eedy, 'A History of Dermatology in Ireland', 95-99.

⁴⁹⁹ Gordon, 'Neglected Aspects', 10-14.

⁵⁰⁰ A by-product of coal tar, physicians have used formulas of benzoyl peroxide to treat burns and tumours of the leg since the early twentieth century. For more on the early history of its therapeutic uses see: Philip C. Merker 'Benzoyl Peroxide: A History of Early Research and Researchers', *Int J Dermatol* 41 (2002), 185-188.

⁵⁰¹ William E. Pace, 'A Benzoyl Peroxide-Sulfur Cream for Acne Vulgaris', *CMAJ* 93 (1965), 252-255.

⁵⁰² Louise Gagnon, 'Discoverers Who Advanced Dermatology', *Dermatology Times*
<http://dermatologytimes.modernmedicine.com/dermatology-times/news/heroes-behind-discoveries-der>.

Accessed 10 November 2019.

⁵⁰³ Guy F. Webster and Anthony V. Rawlings, *Acne and Its Therapy* (New York: Taylor & Francis Inc, 2007), 119.

(Figure 40) and British-based Quinoderm Limited (Quinoderm acne cream) released similar acne products in which benzoyl peroxide was the key ingredient in tackling acne.⁵⁰⁴



Figure 40 ‘Oxy’.⁵⁰⁵

The marketing campaign for Oxy-10, for instance, provided substantial information concerning what caused acne, the difficulties associated with completely curing the condition and asked teenager acne sufferers: ‘if they could afford not to use the cream?’⁵⁰⁶ In addition, advertisements for OXY-10 explained that, while chocolate, candy bars, nuts and cola were not to blame for the condition, the natural process of physical maturation did indeed contribute to the problem (Figure 41).⁵⁰⁷ Regardless of the cause, OXY-10 was the cure. Described as the ‘strongest medicine you can put on your face to kill bacteria – without a prescription’, teenage consumers were implored to ‘help save their skin from permanent scarring’.⁵⁰⁸ Simply washing

⁵⁰⁴ ‘Oxy Advertisement’, *Boys Life* (September 1985).

⁵⁰⁵ *Ibid.*

⁵⁰⁶ *Ibid.*

⁵⁰⁷ *Ibid.*

⁵⁰⁸ *Ibid.*

one's face with soap and water was the 'old way' of treating acne; the 'right way' was OXY-10, because of the way in which it absorbed excess oil and cleared clogged pores and bacteria.

OXY
AN INTRODUCTORY COURSE

ACNE: WHAT REALLY CAUSES IT? AND WHAT REALLY DOESN'T CAUSE IT?
The good news is that for most people, chocolate, candy bars, nuts and cola do *not* cause acne. The bad news is that your body's maturing can lead to acne. And you can't do much to keep your body from maturing (even if you wanted to!). Here's what happens. When you start maturing, the body steps up its production of hormones. In both males and females, This can stimulate your sebaceous glands—the oil-producing glands on your face, back, and shoulders. They, in turn, can produce sebum that can react with acne-causing bacteria. And turn into what is unfondly known as a pimple.

DOES ALL THIS STOP WHEN YOU'RE OVER 21?
Unfortunately, not always. This reaction within your sebaceous glands can continue—well into your twenties!

CAN ACNE BE CURED?
Up to 90% of all people in their teens develop acne in one form or other. Not one of them welcomes it—and not one of them can cure it. But...

you can help save your skin from permanent scarring.

HOW TO HEAL THE PIMPLES YOU ALREADY HAVE.
This is no time to beat around the bush, or cloak ourselves in false modesty. The truth is: Of all the acne medications you can buy, not one of them beats Oxy-10. Oxy-10 contains the strongest medicine you can put on your face to kill bacteria—without a prescription. The medicine is **benzoyl peroxide**. Oxy[®] made it famous. There is nothing better for drying up zits in a hurry.

Which Oxy product is right for you?
For more stubborn acne pimples, there's Oxy-10, with maximum strength 10% **benzoyl peroxide**. For common zits, there's Oxy-5, with 5% **benzoyl peroxide**. And for times when you've got zits and have to make the best of them, make the least of them—with

Oxy-10[®] COVER. It has the same maximum strength 10% **benzoyl peroxide** formula as Oxy-10—and it conceals as it heals!

HOW TO KEEP FUTURE PIMPLES FROM HAPPENING.
There is no way to guarantee you won't get zits. But with a little help from Oxy, you can help prevent a lot of them. Remember, zits are caused by sebum in those relentless sebaceous glands, reacting with acne bacteria. Oxy gives you ways to fight back. Read on.

OXY CAN BE TWO PLACES AT ONCE!

Figure 41 'Oxy 10'.⁵⁰⁹

Although benzoyl peroxide-based lotions and creams became a popular first line treatment for many teenage acne sufferers in the 1970s, stronger drugs were also used to combat the problem. In the decades following the war, pharmaceutical companies in Britain, Germany and North America invested heavily in the development of new drugs for a host of health conditions. These drugs included anti-inflammatories such as corticosteroids, cardiovascular drugs, psychoactive drugs, chemotherapy for cancer and new antibiotics. The huge investment in research and drug development resulted in the introduction of new drugs into nearly every field of medicine, including dermatology. In dermatology, for example, the introduction of corticosteroids in the late 1950s completely transformed how patients with skin ailments were treated. Topical

⁵⁰⁹ Ibid.

corticosteroids were used to treat skin conditions such as psoriasis and eczema because of their anti-inflammatory properties.⁵¹⁰ Moreover, in the case of potentially life threatening skin diseases, such as pemphigus, physicians treated sufferers with huge doses of between 400 and 1000mg of oral cortisone daily until the disease went into remission.⁵¹¹ In a 1959 study outlining the various topical therapies available to acne sufferers, it was claimed that although ‘the corticosteroids have a place in the topical treatment of acne by reducing the local inflammation present about the pustule, this medication is still very expensive and therefore cannot be prescribed routinely’ – a sentiment shared by British dermatologist, Gordon B. Mitchell-Heggs, who agreed that corticosteroids should not be prescribed for acne.⁵¹² Although corticosteroids had previously been prescribed by health professionals with the intention of ‘correcting hormonal imbalances’ (a purported cause of acne), Mitchell-Heggs asserted: ‘I doubt if anyone in this country would seriously consider using them to-day for the condition, as the complications of steroid therapy actually include the development of acne and hirsutism’.⁵¹³

Although steroids were viewed as a short-term solution to reducing the inflammation associated with outbreaks of acne, new antibiotics offered more promise. In 1948 American botanist, Benjamin Minge Duggar, discovered the ‘first of the tetracyclines’, later naming his discovery Aureomycin. Scientists would go on to isolate oxytetracycline and tetracycline itself in 1949

⁵¹⁰ David Cantor has argued that cortisone ‘burst on to the scene in 1949 as a potential cure for rheumatoid arthritis’. David Cantor ‘Cortisone and the Politics of Empire: Imperialism and British Medicine, 1918-1955’, *Bulletin of the History of Medicine* 67 (1998),477. During this period, Cantor claims that British rheumatologists ‘seized on cortisone as an alternative to physical techniques and a means of differentiating their specialty from the low-status specialty of physical medicine’. Ibid,478. Moreover, Cantor argues that ‘the dramatic effects of the drug provided rheumatologists with a means of pressuring the NHS for more resources, creating an instant lobby for their specialty among the thousands of patients with rheumatoid arthritis’. Ibid.

⁵¹¹ Robert G. Walton and Eugene M. Farber, ‘Systemic Use of Corticosteroids in Dermatology’, *Calif Med* 94 (1961), 209-210. The authors explained that the ‘corticosteroids can be used very effectively for short periods in self-limiting disabling diseases such as contact allergic dermatitis (for example, poison oak), in acute urticarial and in overwhelming sensitivity reaction to drugs’. They proceeded to claim that any dermatologist or physician who prescribes corticosteroids for chronic benign dermatosis like psoriasis ‘should be condemned’ as the drug was essentially palliative as opposed to curative and thus not intended as a long-term therapy.

⁵¹² Seymour Hanfling, ‘Topical Therapy in Acne Vulgaris’, *Ann N Y Acad Sci* 82 (1959), 151-157.

⁵¹³ Mitchell-Heggs, ‘Acne Vulgaris’, 1320-1322.

and 1953, respectively.⁵¹⁴ According to Ian Chopra and Marilyn Roberts, ‘tetracyclines are active against many Gram-positive and Gram negative bacteria’ and were even identified as having ‘some advantages over penicillin as the latter only worked on Gram-positive bacteria’.⁵¹⁵ The rush to patent the drug saw litigation brought by competing pharmaceutical companies like Pfizer and Cyanamid. While tetracycline had been ‘produced in the laboratories of Pfizer by chemically manipulating Aureomycin’ – Aureomycin was at the time manufactured by Lederle Laboratories – the pharmaceutical company Cyanamid had acquired in 1935.⁵¹⁶ Following counter claims by several other companies, including Bristol Laboratories and Cyanamid, it was agreed that only ‘five firms could manufacture and market tetracycline’.⁵¹⁷

Initially used to treat venereal diseases such as gonorrhoea and bacterial illnesses like scarlet fever, it was not long before medical professionals began to look into the possibility of tetracyclines being of clinical use for acne.⁵¹⁸ In 1951, dermatologist George Clinton Andrews and his colleagues, Anthony Domonkos and Charles F. Post, reported that Aureomycin and Terramycin had shown to be beneficial and well-tolerated in the treatment of acne. Subsequent

⁵¹⁴ It has been claimed that Duggar ‘named the substance aureomycin, from the Latin word “aureus,” meaning gold, and the Greek word “mykes,” meaning fungus’. Medical Discoveries, ‘Aureomycin’, <http://www.discoveriesinmedicine.com/Apg-Ban/Aureomycin.html>, Accessed 21 March 2018.

⁵¹⁵ Ian Chopra and Marilyn Roberts, ‘Tetracycline Antibiotics: Mode of Action, Applications, Molecular Biology, and Epidemiology of Bacterial Resistance’, *Microbiol Mol Biol Rev* 65 (2001), 232-260.

⁵¹⁶ Roger Cooter, *Companion Encyclopaedia of Medicine in the Twentieth Century* (London: Routledge, 2003), 148.

⁵¹⁷ Only Pfizer, Cyanamid (parent company of Lederle), Bristol, Squibb and Upjohn were permitted to manufacture and market their brands of tetracycline. Tetracycline was sold under the different brand names known as (Tetracyn, Achromycin, Polycycline, Steclin, and Panmycin, respectively). Christopher Scott Harrison, *The Politics of the International Pricing of Prescription Drugs* (London: Praeger, 2004), 45.

⁵¹⁸ In the second half of the twentieth century, antibiotics such as Erythromycin, Doxycycline, Minocycline and Clindamycin have frequently been prescribed to acne sufferers seeking an effective treatment option. In a host of double-blind trials examining the antibiotics’ efficacy for treating acne, both oral and topical forms of Erythromycin, Doxycycline, Minocycline and Clindamycin were found to significantly reduce the severity of acne patients’ ‘pustules, papules and open comedo counts’. William R. Gammon et al, ‘Efficacy of Oral Erythromycin versus oral tetracycline’, *JAAD* 14 (1986), 183-186. Despite medical studies confirming the effectiveness of antibiotics in treating and reducing the severity of acne, many patients reported disappointing results from using the tetracycline group of antibiotics. In a more worrying development for medical professionals and patients towards the end of the twentieth century, dermatologists and bacteriologists spoke of acne bacteria becoming increasingly resistant to antibiotics therapy. ‘Acute Acne Problem Resists All Treatment’, *The Milwaukee Sentinel* (31 July 1976).

researchers were spurred to investigate further.⁵¹⁹ In 1956, a team of researchers from Syracuse University argued that tetracycline had potential to markedly alter the course and severity of acne. Supported by a research grant from Bristol Laboratories – one of the five pharmaceutical companies who held a patent to manufacture and market tetracycline – the researchers used ‘this type of therapeutic attack as an attempt to control the bacteriological phase of the hormonal-bacterial aetiology of acne’. They treated seventy-two sufferers with differing severity of acne, noting ‘statistically significant’ results in sixty-five patients.⁵²⁰ As the study group consisted of university students between the ages of seventeen and twenty-two, many important external factors such as living conditions and dietary habits remained stable throughout the duration of the study whilst the medical staff at the university supervised patients through their outpatient department. Although the researchers welcomed the therapeutic breakthrough for treating the obstinate skin condition, an article in the *BMJ* sometime warned against rampantly prescribing antibiotics such as tetracycline to treat acne.⁵²¹ Explaining physicians’ tendency to recommend a 250mg dose of tetracycline four times per day, the anonymous author reminded readers of tetracycline’s dangerous side-effects, such as ‘nausea and vomiting, presumably due to a direct action on the gastric mucosa, and superinfection by antibiotics-resistant organisms such as *Candida albicans*, *Proteus*, *Pseudomonas* species and *Staphylococcus aureus*.⁵²² Aside from gastrointestinal side-effects regularly reported by patients taking the drug, the article also warned doctors that liver toxicity, photo sensitization and the retardation of bone growth in foetuses could occur as a result of taking the drug.⁵²³

⁵¹⁹ George C. Andrews, Anthony N. Domonkos and Charles F. Post, ‘Treatment of Acne Vulgaris’, *JAMA* 12 (1951), 1107-1113. In this study the authors argued that ‘in a few cases of cystic acne aureomycin, terramycin, and dihydrostreptomycin have proved curative when the sulfonamides have failed’.

⁵²⁰ G. A. Cronk, D. E. Naumann, E. J. Heitzman, F. N. Marty, K. J. McDermott and A. A. Vercillo, ‘Tetracycline Hydrochloride in the Treatment of Acne Vulgaris’, *JAMA* 73 (1956), 228-235.

⁵²¹ Anon, ‘Acne: Tetracycline or Not?’ *BMJ* 1 (1966), 63.

⁵²² *Ibid.*

⁵²³ Some teenagers who had been prescribed the drug for acne reported the drug reacting with the sun, causing their skin to ‘burn, fry and blister’ while they sunbathed. Other anxious parents have described their teenage children suffering from debilitating headaches after taking the drug, a side-effect that was apparently caused by

Furthermore, the report also reminded physicians that there was a lack of definitive evidence regarding the drug's ability to cure certain types of acne such as the cystic or pustular varieties. In a further blow to its prospects, American dermatologist James Fulton opined in 1968 that tetracycline was potentially responsible for causing Gram-Negative Folliculitis in several of his patients.⁵²⁴ Moreover, there were reports from patients and dentists claiming that tetracycline had the potential to permanently stain people's teeth. From as early as 1958, dentists had known that tetracycline could cause dark stains in children up to twelve years of age.⁵²⁵ During the early 1970s, a more worrying warning emerged concerning tetracycline's potential to mask serious sexually transmitted disease like Gonorrhoea. In 1971, Indianapolis physician Thomas A. Cortese suggested that the 'possibility of antibiotic-masked venereal disease could constitute a serious social health hazard'.⁵²⁶ Presenting the case of a sixteen-year-old patient, Cortese showed that his patient only began to present with symptoms of gonorrhoea once he stopped taking the tetracycline he was prescribed for his acne. After the patient had described suffering for four days with a yellow urethral discharge, the doctor immediately prescribed penicillin to combat the infection. However, the 'significance of the case' became apparent when the patient claimed that, one month previous, he had had sex with a girl for the first time. Moreover, the patient started to develop symptoms of gonorrhoea only when he had stopped taking his dose of tetracycline one week previous. Believing research in this area to be 'truly warranted',

tetracycline causing increased intracranial pressure. Anon, 'Tetracycline Can Promote Headaches', *The Montreal Gazette* (September 1981).

⁵²⁴ Gram-Negative Folliculitis is thought to be caused by 'bacterial interference and replacement of the Gram-positive flora of the facial skin and the mucous membranes of the nose and infestation with Gram-negative bacteria. These Gram-negative bacteria include *Escherischia coli*, *Pseudomonas aeruginosa*, *Serratia marescens*, *Klebsiella* and *Proteus mirabilis*'. It is suggested that patients on tetracycline for between three and six months, who have received no therapeutic results from the drug, be tested for the condition. Roland Böni and Brita Nehrhoff, 'Treatment of Gram-Negative Folliculitis in Patients with Acne', *Am J Clin Dermatol* 4 (2003), 273-6.

⁵²⁵ Not to miss out on a potentially lucrative market, the dentist in this article spoke of his practice 'bleaching teeth with a strong solution of hydrogen-peroxide' to reverse staining caused by the drug and urging parents to consider paying for the procedure as 'these children need any help we can give them'. Anon, 'Treating Tetracycline-Stained Teeth', *The Dispatch* (December 1979).

⁵²⁶ Thomas A. Cortese, 'Gonorrhoea Masked by Acne Vulgaris Treatment', *JAMA* 216 (1971), 330-331.

Cortese believed many teenagers taking tetracycline for their acne should be informed of the possibility of the drug delaying the onset and symptoms of sexually transmitted diseases. Coming at a time when sexually transmitted diseases amongst teenagers were on the increase in the United States, Cortese's comments were indicative of how serious the medical establishment was taking the problem of STDs. Despite concerns regarding the use of tetracyclines for treating acne, however, other medical studies conducted on the drug opined that its benefits far outweighed its risks.⁵²⁷

Despite concerns over tetracycline's long-term safety, sufferers continued to seek prescriptions. The rush to obtain the drug, though, made patients vulnerable to unscrupulous and profiteering doctors. In a 1966 *Life* article, reporters Keith Wheeler and William Lambert described the efforts of the American Congress to prohibit 'physicians from profiting from the medications he prescribes'. According to Wheeler and Lambert, a conservative estimate of 10,500 physicians from the 225,000 (five per cent) practicing doctors in America during 1966 were 'employing doubtfully ethical means of making extra money out of the prescriptions they write for their patients'.⁵²⁸ One example of unethical practice outlined in the article centred on two Californian physicians who were 'treating young acne sufferers with tetracycline'.⁵²⁹ As well as selling the drug (which was imported from Italy) from their office, the doctors were accused by one local pharmacist of 'putting him out of business' – an allegation that the physicians refuted on the grounds that they were merely conducting a medical experiment and needed to control supplies of the drug. After further investigations by the aggrieved pharmacist, though, it was found that the doctors were charging \$16 a time for a hundred pills – over six times their wholesale price.⁵³⁰ While one hundred tetracycline pills could be bought wholesale for \$2.50,

⁵²⁷ R. Jackson, 'How safe is low-dose long-term systemic tetracycline therapy', *CMAJ* 115 (1976), 838.

⁵²⁸ Keith Wheeler and William Lambert, 'Uneasy Balance: Ethics V Profits', *Life* (June 1966), 87.

⁵²⁹ *Ibid.*

⁵³⁰ *Ibid.*, 94.

the pharmacist in question attested to selling them to acne sufferers for \$4.90 and remarked: ‘there is just one reason [for the doctors dispensing the drugs] the almighty dollar and a few damn greedy doctors’. Although Senator Philip Hart worked tirelessly to put a stop to the practice for good, Congress failed to ‘create new restrictions then, or when it reconsidered the matter in 1970’.⁵³¹

Treating the Tormented

For dermatologists, psychological factors could also play a role in skin problems. During a discussion concerning the relationship between ‘psychiatry and the skin’ in 1950, for example, dermatologist Robert W. Mackenna described the ‘two diametrically opposed beliefs concerning the relationship of the mind and the body in the etiology of skin diseases’. As the following extract demonstrates, the rhetoric employed by Mackenna also reinforced the gendered norms and ideals of the era in which acne was portrayed as having the potential to ruin girls’ self-confidence and undermine their femininity:

Whilst the unsightliness of acne vulgaris-or of the scars left by the lesions-may greatly interfere with a girl’s self-confidence and gravely affect her attitude to the social problems of her life so that she may become a recluse, or-thinking that acne is a visible sign of masculinity-may become as aggressive and as masculine as she can make herself, prolonging a state of unstable psychological equilibrium which may eventually lead to a breakdown.⁵³²

As Chapter 2 demonstrated, dermatologists were particularly concerned with the problem of excoriated acne. Excoriated acne, whereby sufferers picked compulsively at their blemishes and exacerbated scarring, had been researched by dermatologists William Allen Pusey and Francis E. Senear during the early twentieth century, but little attention had been paid to the

⁵³¹ Marc A. Rodwin, *Conflicts of Interest and the Future of Medicine: The United States, France, and Japan* (Oxford: Oxford University Press, 2011), 100.

⁵³² Robert MacKenna, ‘Discussion: Psychiatry and the Skin,’ *Proc Roy Soc Med* 43 (1950), 797-803.

issue since 1920.⁵³³ In 1954 Canadian physician Norman M. Wrong expressed his displeasure concerning the lack of attention paid to the problem of excoriated acne in young women in the *Archives of Dermatology and Syphilology*. Despite the availability of information about excoriated acne in British and North American dermatology textbooks, Wrong argued ‘that excoriated acne of females is more common than is usually supposed, that its lack of recognition often results in inadequate treatment, and that such inadequate treatment causes needless mental upset to the patient and persistence of the eruption for years’.⁵³⁴ Wrong found that the problem was not limited to one specific age group, but rather occurred in girls and women aged between sixteen and forty years of age. He urged his colleagues to refrain from thinking of excoriated acne as being solely a problem of young girls and consider it more as an issue that affected women in general. Wrong divided patients into the following three groups:

- (a) Slightly masculine type
- (b) Vain type of girl who thinks of nothing but her appearance and spends hours each day in front of her mirror
- (c) Good-looking type of girl who does not have as much attention from the opposite sex as she feels is her due and who blames the real or imaginary blemishes on her face for this lack of attention.⁵³⁵

During his consultations with sufferers, Wrong claimed he saw many patients with brownish stains and superficial scars ‘which suggested to him that the patient was picking the lesions on her face’. Patients would freely admit to picking, and explain that anxiety relating to school

⁵³³ William Allen Pusey and Francis E. Seneor, ‘Neurotic Excoriations with Report of Cases’, *Arch Derm Syphilol* 1 (1920), 270-78.

⁵³⁴ Norman M. Wrong, ‘Excoriated Acne in Young Females’, *Arch Derm Syphilol* 70 (1954), 576-82.

⁵³⁵ *Ibid.*

exams, exhaustion, difficulties at home or in the workplace, and ongoing problems with their partners triggered such behaviour.⁵³⁶

Although the root causes of excoriated acne were often psychological, physicians often turned to pharmacological solutions to control it.⁵³⁷ San Antonio physician, Dr James Lewis Pipkin, claimed that treating ‘pickers’ with the sedative phenobarbital often helped break the vicious cycle of picking and scratching their faces.⁵³⁸ In other skin conditions, where there was an ‘uncontrollable urge to scratch or in whom a tension factor contributed to the cutaneous disorder’, dermatologists embraced new tranquilliser drugs which had been developed in the aftermath of the war. Drugs such as Ethchlorvynol (marketed as Placidyl), Meprobamate (Miltown) and Perphenazine (Trilafon) were used to treat the emotional disturbances linked with skin disorders like atopic dermatitis, contact dermatitis and lichen planus (amongst many others).⁵³⁹ While some of these treatments calmed patients, side effects of the sedatives included ‘dopiness’, ‘dullness of perception’ and palpitations (amongst others).⁵⁴⁰

Other physicians sought drug-free alternatives, including hypnosis.⁵⁴¹ In 1958, for instance, John Hopkins University dermatologist, Mark B. Hollander, presented a paper describing the use of post-hypnotic suggestion to control excoriated acne. The paper, presented at the First

⁵³⁶ Ibid.

⁵³⁷ Ibid.

⁵³⁸ James Lewis Pipkin, ‘Treatment of Acne Vulgaris’, *Med Clin North Am* 49 (1965), 1-18.

⁵³⁹ In most studies, authors claimed that both dermatologists and psychiatrists prescribed tranquilliser drugs: ‘because certain dermatological syndromes have so frequently appeared closely bound up with emotional factors, the use of sedatives as an adjunct therapy has become widespread in these conditions’. Oscar Sokoloff, ‘Meprobamate (Miltown) as Adjunct in Treatment of Anogenital Pruritus’, *AMA Arch Derm* 74 (1956), 393-6. For other examples of tranquillisers being used to treat skin disorders see: Charles R. Rein and Raul Fleischmajer, ‘The Tranquilizing Efficacy of Ethchlorvynol (Placidyl) in Dermatological Therapy’, *Arch Dermatol* 75 (1957), 438; Jay Shanon, ‘A Dermatologic and Psychiatric Study of Perphenazine (Trilafon) in Dermatology’, *AMA Arch Derm* 77 (1958), 119; James G. MacLean, ‘Treatment of Acne with Prothipendyl’, *CMAJ* 84 (1961), 427-30.

⁵⁴⁰ Sokoloff, ‘Meprobamate’, 393.

⁵⁴¹ Philip D. Shenefelt, ‘Hypnosis in Dermatology’, *AMA Arch Derm* 136 (2000), 393-99.

Annual Meeting of the American Society of Clinical Hypnosis, described acne as being a ‘profoundly traumatic experience to its victims, especially in adolescence when the developing individual first becomes aware of the opposite sex’.⁵⁴² Hollander explained that some patients ‘retaliated by attacking the acne directly, trying to press out and thus get rid of the offending blackheads and pimples’. With their actions often resulting in a worsening of their skin, Hollander noted that well-meaning parents would constantly badger their offspring to refrain from picking their faces. Along with having to deal with overbearing parents, some patients would also be targeted by bullies. Hollander explained that pressure from parents and worrying about bullies only served to increase patient anxieties. Patients would become incapacitated by feelings of guilt, and what initially began as an effort to rid their face of pimples quickly became a device for punishing oneself compulsively. Hollander acknowledged that coping with such patients was challenging and noted that, ‘at this point, he has his hands full’.⁵⁴³ Treating the initial outbreak of acne was impractical as the patient had to firstly be persuaded to stop picking their skin, which was not always possible. When the initial outbreak was successfully treated, subsequent picking caused pitted scars and blood crusts which marred the complexion of patients. Hollander explained how, after five weeks of intensive treatment, the pimples of a nineteen-year-old college student had disappeared. During a follow up appointment, however, he noted blood-crusted excoriations caused by picking. He then employed post-hypnotic suggestion:

She went into a somnambulistic trance readily, and was told that when she wanted to pick her face she was to remember the word ‘scar’. This word was to symbolise the effects of picking on her face and her appearance. Since she did not want to spoil her appearance, she would be able to refrain from picking merely by saying ‘scar’. One week later there has been no picking, and the face was smooth. The suggestion was reinforced on three occasions in late March and late April. In mid-May, there has been occasional picking, but no excoriations or crusts could

⁵⁴² Mark B. Hollander, ‘Excoriated Acne Controlled by Post-Hypnotic Suggestion’, *Am J Clin Hypn* 1 (1959), 122.

⁵⁴³ *Ibid.*

be seen and the patient felt that she was under good control. This remained true in September.⁵⁴⁴

Acne sufferers who had been left scarred by the condition also sought surgical procedures to reduce both their dermatological damage and improve their self-image. Scholars have claimed that ‘cosmetic surgery acted as a kind of psychotherapy that made an intervention into the body for the purposes of dealing with psychic trauma or distress’.⁵⁴⁵ In the early twentieth century, German dermatologist Ernst Kromayer introduced an abrasion technique to reduce the scars left behind by a host of skin diseases and defects. Using dental burrs (Figure 42) fixed to a motor driven powered dental drill, Kromayer’s new innovation proved valuable in treating and removing skin imperfections such as freckles, pitted scars and keloids.⁵⁴⁶

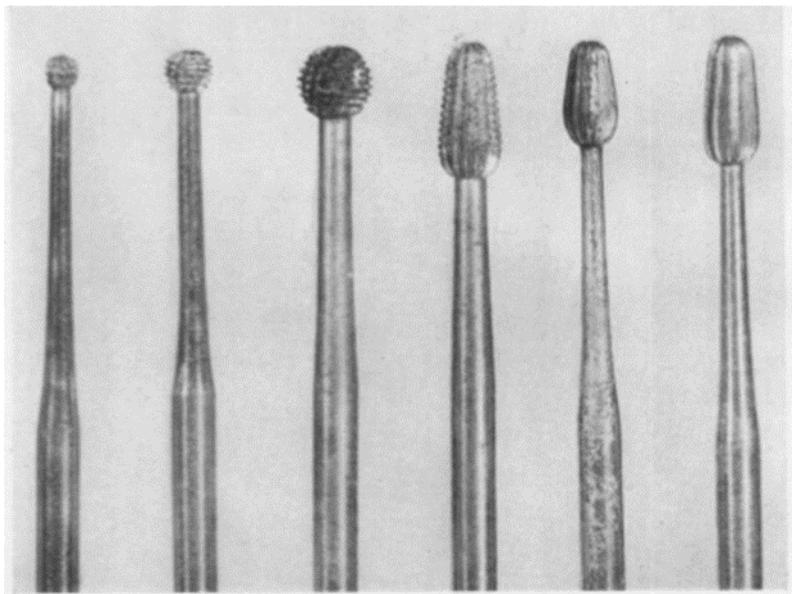


Fig. 1.—Various-sized and shaped burrs.

Figure 42 Kromayer’s abrasion technique.⁵⁴⁷

⁵⁴⁴ Ibid.

⁵⁴⁵ Sheila L. Cavanagh, Angela Failler and Rachel Alpha Johnston Hurst, *Skin, Culture and Psychoanalysis* (London: Palgrave Macmillan, 2013), 129.

⁵⁴⁶ Frederick Reiss, ‘Kromayer Method of Corrective Surgical Plaining of Skin’, *Arch Derm Syphilol* 69 (1954), 744-46.

⁵⁴⁷ Ibid.

Taking inspiration from Kroymayer's work, subsequent dermatologists introduced their own abrasion methods for treating acne scars and other skin deficiencies in the late 1940s and early 1950s. In 1947, American plastic surgeon, Preston C. Iverson, presented a paper to the Philadelphia Academy of Surgery detailing the use of sandpaper in minimising the scars often left behind by both acne and traumatic tattoos. Recognising the technique's 'seemingly brutal treatment of skin tissues', Iverson nevertheless believed his method was worthwhile. Not only would using sandpaper reduce the severity of facial scars left behind by acne and traumatic tattoos, but it was also believed that the technique would help reduce the embarrassment felt by sufferers.⁵⁴⁸

Some dermatologists, however, expressed concern that those unexperienced with the technique might go too far and produce what amounted to a third degree burn and irreversible facial scars. In 1950, Detroit based dermatologist William G. McEvitt successfully reported his experiences treating his patients' acne pits with sandpaper. McEvitt used a local anaesthesia to reduce the severe level of discomfort felt by the patient, but could only treat a small area of the face at any one time. He attempted to overcome this problem by hospitalising patients, reducing the need for multiple visits. Putting his patients under full sedation, he could abrade their entire face in one session, proceeding to the 'point of profuse capillary bleeding'. A complicating factor was that many patients had received x-ray therapy to treat their acne. With their facial skin being thinned as a result of the x-ray therapy, only one facial sanding was usually recommended. Dermatologists using sandpaper abrasion therapy were warned to look out for small keloidal spots or streaks on the facial skin as these were believed to appear when the abrasion had begun to damage the skin allowing granulation tissue to form. While keloids could be easily removed

⁵⁴⁸ Preston C. Iverson, 'Surgical Removal of Traumatic Tattoos of the Face', *Plast Reconstr Sur* 2 (1947), 427-32.

by the treating dermatologist, they acted as a warning that further abrasion would result in permanent damage to the skin and signified that continued treatments were not advised.⁵⁴⁹

In order to unearth safer and more enhanced surgical means for reducing acne scars, New York-based dermatologist, Abner Kurtin, designed his own technique which became known as Dermabrasion Therapy.⁵⁵⁰ Kurtin's procedure led to skin specialists being able to perform skin-corrective surgeries in an office-based setting.⁵⁵¹ Kurtin used a mounted blower which permitted the operator to direct the anaesthesia to the desired areas, whilst also allowing their hands to be free. In the planing process, Kurtin employed a motor-driven wire brush to abrade the surface of the skin and smooth patients' acne scars. In the post-operative phase, Kurtin warned that patients should expect to find that their face would 'ooze' with blood and serum once the thawing of the general anaesthesia had commenced. Opting for ethyl chloride, Kurtin found the advantages both lay in the ease with which it could be applied to a specific area and its ability, when inhaled, to relax anxious patients.

⁵⁴⁹ William G. McEvitt, 'Treatment of Acne Pits by Abrasion with Sandpaper', *JAMA* 142 (1950), 647-48.

⁵⁵⁰ Abner Kurtin, 'Corrective Surgical Planing of Skin: New Technique for Treatment of Acne Scars and Other Skin Defects', *Arch Derm Syphilol* 68 (1953), 389-97.

⁵⁵¹ Noel Robbins, 'Dr Abner Kurtin, Father of Ambulatory Dermabrasion', *J Dermatol Surg and Oncol* 14 (1988), 351-58.

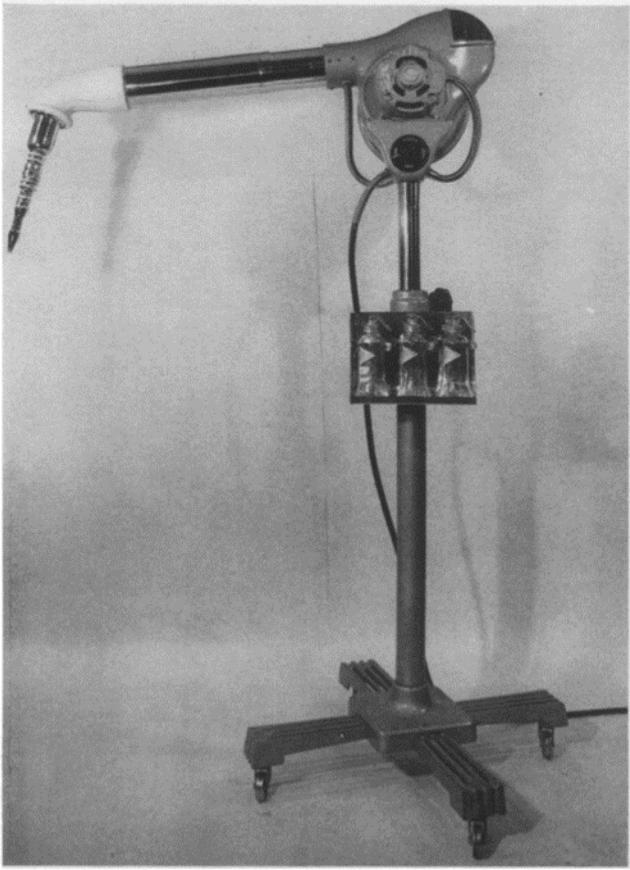
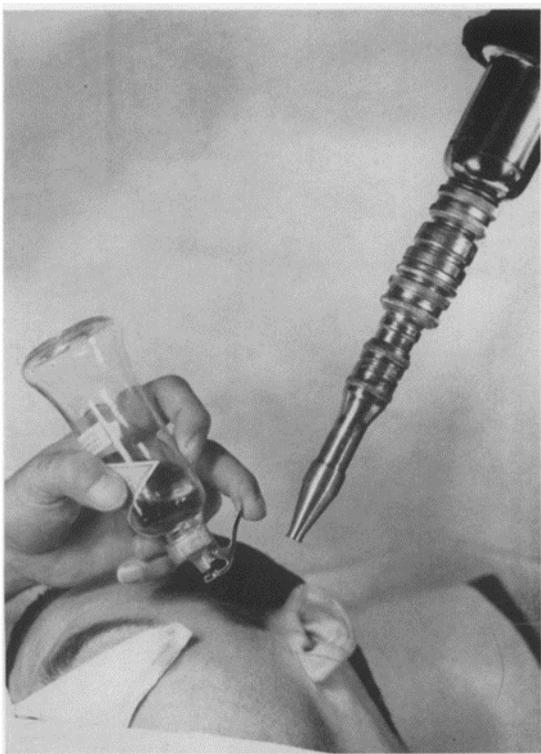


Figure 43 Mounted Blower.⁵⁵²



⁵⁵² Kurtin, 'Corrective Surgical Planing of Skin', 392.

Figure 44 The blower in position and the ethyl chloride in the process of being sprayed.⁵⁵³

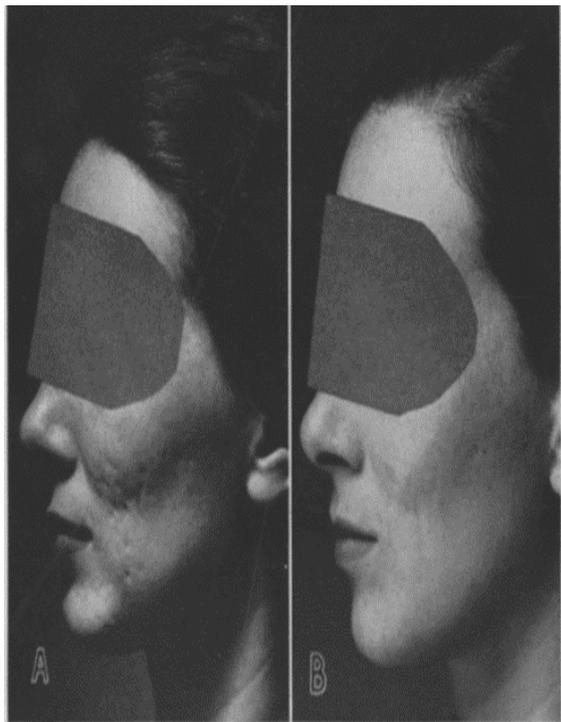


Figure 45 Before and after Dermabrasion Therapy.⁵⁵⁴

Some skin specialists believed it was necessary to evaluate acne sufferers' emotional state before offering them dermabrasion therapy. Adolph Brown, a Beverly Hills-based dermatologist, for instance, reminded his colleagues to consider their patients' motivations. In Brown's view, acne sufferers could be separated into three classes of people: 'Well-adjusted persons, persons with inadequate personalities, and psychotic or pre-psychotic persons'.⁵⁵⁵ Brown felt that the 'well-adjusted' would want dermabrasion for 'purely cosmetic purposes' and hoped it would provide them with the social and economic advantages that were associated with having a clear complexion. It was believed such 'well-adjusted' patients were ideal

⁵⁵³ Ibid.

⁵⁵⁴ While the before and after picture below features a young woman exhibiting a much improved complexion following six weeks of treatment, Kurtin admitted that, despite trying to photograph the patient under the exact same lighting, the 'follow-up photographs in this case and in the following cases are slightly prejudicial in my favour'. Ibid.

⁵⁵⁵ Adolph Brown, 'Dermabrasive Ablation of Acne Scars', *Calif Med* 89 (1958), 123-26.

candidates for the procedure as they had a ‘clear insight into their problems and were obviously robust and emotionally healthy’.⁵⁵⁶ In contrast, Brown claimed that those considered to have ‘inadequate personalities’ retreated ‘behind their facial handicap and blamed all their inadequacies and dissatisfactions on it’. If the treating physician expressed concern for some of these patients and they improved aesthetically after treatment, however, Brown believed that their emotional well-being would improve (Figure 46). Brown argued that the pre-psychotic or psychotic sufferers used their ‘acne scars as rationalisation for all their personality, social and economic difficulties, giving the scars an importance completely out of proportion to the disfigurement’. Although Brown doubted such patients could ever be cured of their psychological problems (and they might identify another ailment to blame their perceived inadequacies on) he did concede that, if ‘great care’ was used when treating a selection of these patients then emotional improvement was not impossible.



Figure 2.—Typical cosmetic improvement resulting from dermabrasion.

Figure 46 Typical cosmetic improvement resulting from dermabrasion’.⁵⁵⁷

⁵⁵⁶ Ibid.

⁵⁵⁷ Brown’s use of pictures were arguably to show that some patients’ mental health did indeed improve following Dermabrasion Therapy. Ibid.

Shortly after Brown's paper was published, the mental anguish associated with acne and other facial defects led to the Committee on Cosmetics sponsoring a symposium entitled: 'The Management of Cutaneous Facial Disfigurements' at the 108th Annual Meeting of the American Medical Association (AMA) in Atlantic City on 9 June 1959. Established in 1948 by The Board of Trustees of the AMA to 'study problems relating to medical interest in cosmetics and to effect a better understanding of the usefulness of cosmetics', the Committee regularly discussed the social and economic handicaps associated with having a facial deformity.⁵⁵⁸ In the first of a series of papers deriving from the meeting, Chicago-based dermatologists Herbert Rattner and Paul Lazar published a paper describing the value of using dermabrasion on acne scars. In the introduction to their paper, the Committee on Cosmetics secretary, Veronica Lucey Conley, detailed the motivations behind the symposium:

The management of facial disfigurements has become a more acute medical problem, with greater recognition of the social and economic handicaps consequent to physical deviations from what is considered normal. It is becoming increasingly apparent that the presence of facial disfigurements, which cannot be successfully masked through cosmetic measures, more often than not may mean marginal or minority status in our society. These pressures, added to the mass media publicity of improvements in dermatological and surgical techniques, have created a greater public demand for facial rehabilitation.⁵⁵⁹

Rattner and Lazar claimed that dermabrasion therapy had several merits: it was an office procedure; there was no need for the patient to be hospitalised; the procedure was simple and, in the event it was successful, it 'may be the source of a great deal of happiness to the patient'. However, while the therapy did have many benefits, Rattner and Lazar claimed that not all scars could be improved – a problem which the two dermatologists encountered quite frequently in their practices. When dermabrasion failed to bring about any cosmetic improvements, Rattner and Lazar warned that the patient's 'unhappiness is compounded'.⁵⁶⁰

⁵⁵⁸ Anon, 'Committee on Cosmetics', *JAMA* 140 (1949), 406-407.

⁵⁵⁹ *Ibid.*

⁵⁶⁰ *Ibid.*

The apparent influence dermabrasion therapy had on improving acne sufferers' mental health led to attention from both dermatologists and psychiatrists in the early 1960s. For example, in 1962 the Dermatology and Psychiatry Services at the Veterans Administration Hospital, Wadsworth, Los Angeles, collaborated on a study to evaluate the benefits that dermabrasion therapy had on acne sufferers' 'psychological status'.⁵⁶¹ In the study, researchers chose fifteen men severely disfigured by post adolescent acne and offered them dermabrasion therapy to see if it led to improvements in their 'vocational, social, and sexual relationships'. Before the procedure, the participants claimed that acne and the resulting scarring had a significant impact. All fifteen participants of the study claimed that their scarring had made them reserved, reflective and shy. Not only did their shyness make communicating with women challenging, but they attested to most social situations having the potential to cause them a great deal of anxiety. In the postoperative phase, most patients spoke of dermabrasion therapy having had a positive effect on their lives. Their acne scars greatly improved, most felt they had increased confidence and felt more assured when communicating with others. Although the authors of the study cautioned observers against reading too much into their findings, they did nevertheless claim that minimising the participants' acne scars had resulted in them becoming more satisfied and happier. The authors claimed that 'despite the existence of longstanding personality disorders, it appears that dermatologists can anticipate some psychological improvement after a successful dermabrasion'.⁵⁶²

⁵⁶¹ David Markel, Edwin T. Wright, Allan Edwards and Sidney Cohen, 'Psychological Effects of Dermabrasion', paper presented at the 111th Annual Meeting of the American Medical Association, Section on Dermatology, Chicago (June 24-28 1962).

⁵⁶² Ibid. The media also discussed dermabrasion therapy. The Virginia-based *Smithfield Times*, encouraged individuals 'marred' by acne scars to ask their doctor about the benefits of dermabrasion in its Health and Safety Tips column. Referencing the AMA's magazine, *Today's Health*, the column did warn sufferers that the procedure was not guaranteed to work for everyone, and that false promises were often being offered to patients. Anon, 'Health and Safety Tips, Dermabrasion', *Smithfield Times* (February 1965).

Aside from corrective surgeries like dermabrasion therapy, dermatologists in North America also offered procedures such as cryotherapy and phenol-based chemical peels. However, as with many of the other surgical procedures offered to acne sufferers, those who administered the treatments were sometimes untrained ‘laymen’, who were ignorant of the risks such therapies posed to patients.⁵⁶³ The 1973 case of twenty-one-year-old Canadian nurse, Antoinette Cere, provides a harrowing example. Cere had visited the Yolandre Peau de Soie Skin Clinic in Montreal looking for help in overcoming her stubborn case of acne. Paying the clinic \$800, she was treated with a chemical peeling solution which contained resorcinol, lactic acid and salicylic acid. Once the chemical peel had been applied, Cere’s face was covered with adhesive tape for forty-eight hours. Shortly after the treatment, Cere complained of feeling unwell, collapsed and died as a result of breathing failure. She was found to have suffered second degree burns to her face and neck. During the coroner’s inquest, it was found that the skin clinic did not have a license to carry out chemical peels and was only permitted to sell cosmetic products.⁵⁶⁴ As the permit to sell beauty products was only temporary, the clinic’s co-owners, Yolande and Andre Marois, were accused of running ‘an illegal operation’. Moreover, in his testimony, Andre Marois admitted that twelve of the fifteen diploma certificates that hung on the clinic walls were fake; he admitted to having had them made due to his wife feeling ‘ill at ease with having only three diplomas while others had many more’. In the aftermath of Cere’s death, the pathologist who carried out the autopsy, Dr Wesner Thesee, was quoted as saying:

I am 100 per cent certain that if Miss Cere had not taken this treatment she would be alive today. The drugs were probably a very important factor in causing respiratory difficulties. I’m not talking about intoxication. I’m talking about complications as a result of the drugs. There was a high content of morphine in her system, it wasn’t at the

⁵⁶³ Although beyond the scope of this chapter to detail specific examples where acne sufferers have been seriously injured pursuing said mentioned treatments, for specific example case studies see: Adolph Brown, Leo M. Kaplan and Marthe E. Brown, ‘Phenol-Induced Histological Skin Changes: Hazards, Technique, and Uses’, *B J Plast Sur* 13 (1960), 158-69 and Frank Mackey, ‘Death Linked to Skin Treatment’, *The Montreal Gazette* (6 June 1974), 8.

⁵⁶⁴ Mackey, ‘Death Linked to Skin Treatment’, 8.

poison level, but morphine is a depressant and in large doses affects the breathing of a person.⁵⁶⁵

Despite the risks of many of the drug therapies and surgical procedures offered to acne sufferers in the post-war period, many adolescent acne sufferers, their parents and their physicians felt that the possibility of eradicating both pimples and the scars they often left behind was worth the risk. Although the aforementioned therapies promised to decrease the psychological torment associated with acne, they did not cure the underlying condition. As the final section will demonstrate, this could only be achieved once an effective method to suppress sebum was discovered.

The Search for a Sebum Suppressant: Vitamin A and Retinoids

In the post-war period the majority of dermatologists agreed that ‘increased sebum production’ played a key role in the pathogenesis of acne.⁵⁶⁶ In 1974, for example, leading dermatologist John Steinert Strauss and colleagues from the Dermatology Department, Boston University Medical Centre, described sebum as an oily secretion of the sebaceous glands and ‘not only an important factor in the pathogenesis of acne but probably an essential one’.⁵⁶⁷ Considered essential in keeping skin and hair lubricated, excess sebum is thought to mix with dead skin cells and form over skin follicles which leads to a blockage of the oil glands. As surplus sebum clogging the pores, this creates an ‘environment for bacteria to thrive, which can lead to inflammation and acne development’.⁵⁶⁸ Dermatologists and the pharmaceutical industry set to

⁵⁶⁵ Steve Kowich, ‘Acne Clinic Had Cosmetic Permit Only’, *The Montreal Gazette* (13 September 1973), 1.

⁵⁶⁶ John S. Strauss, Peter E. Pochi and Donald T Downing, ‘Acne Perspectives’, *J Investig Dermatol* 62 (1974), 321-325.

⁵⁶⁷ Ibid.

⁵⁶⁸ The bacteria involved within the pathogenesis of acne is called *Propionibacterium acnes* or *P. acnes* and, like sebum, is thought to play an essential role in the development of acne. According to science writer, Honor Whiteman, ‘*P. acnes* uses sebum as a source of energy and its presence in the pores initiates an immune response that triggers inflammation. However, *P. acnes* is highly abundant in the pores of individuals with and without acne, which indicates that it is not simply the presence of this bacterium that drives the skin condition.’ Honor Whiteman, ‘Acne May Be Caused By an Imbalance of Skin Bacteria’, *Medical News Today* (April 2017), <https://www.medicalnewstoday.com/articles/316803.php>, Accessed 2 February 2019.

work on trying to uncover a therapeutic that would suppress the sebum levels in those prone to breakouts of acne.

In the post-war period, dermatologists experimented with substances such as oestrogens, progesterone and testosterone propionate for treating acne but were often left frustrated about the efficacy of such treatments.⁵⁶⁹ Throughout the 1950s and early 1960s, patients being treated with the available hormone therapies did notice an immediate improvement in their skin, only to find their initial optimism quashed by a reoccurrence of spots soon after cessation of treatment.⁵⁷⁰ Moreover, subsequent relapses of acne were often more violent and widespread. University of Southern California-based dermatologist, William Goeckerman, outlined the scepticism many of his colleagues felt towards using current day hormones as an acne treatment:

- 1) “Hormonal therapy of little value”
- 2) “Hormonal therapy of little value except when specifically indicated by symptoms other than acne and by laboratory tests”
- 3) “Not able to evaluate hormonal therapy definitely. Where used results not followed long enough to be convincing. Impression that they are of no value”
- 4) “Never used hormones”
- 5) “Thyroid extract with diet of great value”
- 6) “Only of value in women who have associated dysmenorrhea or amenorrhea”

⁵⁶⁹ For interesting debates concerning the pros and cons of using hormonal therapies see: Henry Lewis, Gerald Frumess and Egbert J Henschel, ‘Progesterone Therapy of Acne’, *Arch Derm Syphilol* 64 (1951), 562-564 and William Goeckerman and Louis Wilhelm, ‘Estrogens in the Treatment of Acne Vulgaris’, *Arch Derm Syphilol* 66 (1952), 402-403.

⁵⁷⁰ *Ibid.*

Although treating acne with single hormones had proven to be inadequate, the 1960 release of the first oral contraceptive, Enovid, came to be regarded as a more promising therapy.⁵⁷¹ In 1962, New York-based dermatologist Laurence Palitz tested whether G.D Searle's combined norethynodrel (a progestin) and mestranol (an estrogen) formula could reduce the severity of adolescent acne in female patients.⁵⁷² In his study, thirty-five female acne sufferers between the ages of fifteen and forty were given the drug for twenty successive days, and instructed to take the drug in the same way as they would for contraceptive purposes. Following the first round of treatment, both Palitz and the test subjects remarked on the 'noticeable decrease in the oiliness of their skin' and some improvement in the severity of their acne. Though promising, most of the group nevertheless complained of side effects such as nausea, gastrointestinal problems, breast engorgement and weight gain. Reacting to Palitz's paper, which he had presented in front of the Bronx Dermatological Society, dermatologists such as Irwin Kantor and Irving Milberg also expressed doubts concerning both the clinical benefits of the drug's use in acne and its long-term safety profile, especially in the aftermath of an FDA ruling which ruled that the drug be used for no longer than a duration of two years.⁵⁷³

Two years later, John Strauss and Peter E. Pochi conducted their own test investigating the effectiveness of Enovid for inhibiting sebum production in females. Supported by Pochi's postdoctoral fellowship grant from the National Institute of Health and 'kindly supplied' Enovid by the drug's makers, G.D Searle & Company, Strauss and Pochi used six young female

⁵⁷¹ For more on the history of Enovid see: Elizabeth Siegel Watkins, 'How the Pill Became a Lifestyle Drug: The Pharmaceutical Industry and Birth Control in the United States Since 1960', *Am J Public Health* 102 (2012), 1462-72, Elizabeth Siegel Watkins, *On the Pill: A Social History of Oral Contraceptives, 1950-1970*, (Baltimore: Johns Hopkins University Press, 1998) and Lara V. Marks, *Sexual Chemistry: A History of the Contraceptive Pill*, (New Haven: Yale University Press, 2010).

⁵⁷² Laurence L. Palitz, 'Abstract of a Preliminary Report on Norethynodrel (Enovid) in the Control of Acne in the Female', *Arch Dermatol* 86 (1962), 237.

⁵⁷³ *Ibid.*

students from a school for ‘mental defectives’.⁵⁷⁴ In the post-war period, researchers often considered institutes for physically and mentally challenged children as ideal environments for carrying out medical experiments. Often lacking state and parental protection, institutionalised children were abundant in numbers, vulnerable and compliant. According to scholars like Allen Hornblum, Judith Newman and Gregory Dober, ‘doctors quickly discovered that access to institutionalised populations could springboard them to lucrative contracts with drug companies and great wealth’.⁵⁷⁵ In this study, like Palitz beforehand, Strauss and Pochi similarly recorded a decrease in the levels of sebum produced. Strauss and Pochi conceded, however, that the girls’ sebum output levels returned to normal, pre-treatment levels only three months after their last dose of Enovid. However, just like previous studies where dermatologists used oestrogens alone to treat acne, the use of contraceptives could not be relied upon for the long term treatment of the condition – female acne sufferers frequently experienced significant relapses once their course was finished.⁵⁷⁶

Aside from the ongoing debate regarding Enovid’s long term potential as a therapy for acne, the drug attracted criticism from some dermatologists concerned about its overuse. New York dermatologist Robert A. Berger, for instance, warned about how high oestrogen content could stunt growth in girls, and urged dermatologists to refrain from using contraceptives to treat acne. Berger’s warnings led to a strong response from Strauss and Pochi.⁵⁷⁷ Referencing growth studies which showed that by fourteen years of age the average girls had usually already attained over ninety-eight per cent of their mature height, Strauss and Pochi also assured him

⁵⁷⁴ John S. Strauss and Peter E. Pochi, ‘Effect of Cyclic Progestin-Estrogen Therapy on Sebum and Acne in Women’, *JAMA* 190 (1964), 815-819.

⁵⁷⁵ Hornblum, Newman and Dober, *Against Their Will*, 9.

⁵⁷⁶ *Ibid.*

⁵⁷⁷ Robert A. Berger, ‘Letters to the Editor: On Use of Oral Contraceptive Drugs in Acne’, *Arch Dermatol* 89 (1964), 898.

that they would no longer treat female acne sufferers below the age of fifteen with oestrogens.⁵⁷⁸

Firms such as Johnson & Johnson and Parke-Davis also developed their own versions of the drug, meaning that the market became quickly saturated with competitors.⁵⁷⁹

In the face of the FDA speaking out publicly to allay women's fears concerning the link between oral contraceptives and thromboembolism in 1963, investigations into Searle's 1965 application to market Enovid as a therapeutic for acne were exhaustive.⁵⁸⁰ Searle's first application, however, was neither comprehensive nor convincing. Although Crosson had asked several dermatologists to investigate Enovid's potential as a treatment for acne, 'no protocol was developed beforehand and the study lacked uniform measurement and any sense of control'.⁵⁸¹ The dermatologists Crosson had recruited to test the drug failed to offer any statistical proof to substantiate Enovid's value as a potential acne treatment, with only Strauss and Pochi serving to include a detailed breakdown of how their patients fared whilst on the drug. Searle's first application was given to FDA dermatologist, Donald Mitchell, for further investigation. After carefully scrutinising the supporting evidence, Mitchell was not only unimpressed by Searle's inadequate submission, but he expressed his frustration regarding the 'lack of controlled studies, defined dosage levels and lack of attention to subgroup difference in the clinical results'.⁵⁸² Though discouraged by the rejection, Searle executives submitted another application only two years later. As with the first application, however, the FDA remained unconvinced and proclaimed it 'incomplete' following fifteen months of deliberations. This time, Searle's second application was examined by both an FDA pharmacist and

⁵⁷⁸ John S. Strauss and Peter E. Pochi, 'Letters to the Editor: Progestin-Estrogen Combinations', *Arch Dermatol* 90 (1964), 375.

⁵⁷⁹ Daniel Carpenter, *Reputation and Power: Organizational Image and Pharmaceutical Regulation at the FDA* (Princeton: Princeton University Press, 2010), 536

⁵⁸⁰ *Ibid.*

⁵⁸¹ *Ibid.*

⁵⁸² *Ibid.*, 537.

endocrinologist. Like Donald Mitchell, the endocrinologist remained equally unimpressed regarding several facets of Searle's 'Enovid for Acne' submission. In the endocrinologist's view, fundamental terms were never defined and Searle's new efficacy scale for evaluating the value of new drugs was vague. Once again, Enovid was refused a licence and, soon after, Searle gave up on the idea of marketing Enovid to adolescent sufferers, citing the difficulties associated with getting new treatments approved. Nonetheless, despite there being no official contraceptive licensed for the treatment of acne, physicians and dermatologists continued prescribing the drugs off-label for the treatment of the condition.⁵⁸³

Despite the setback, Strauss and Pochi were undeterred in their quest to unearth an anti-acne therapeutic that would lead to long term suppression of the sebaceous glands.⁵⁸⁴ Strauss, in particular, was considered a specialist on acne and had published numerous papers relating to 'sebaceous gland biology and the pathophysiology of acne and its therapy'.⁵⁸⁵ Receiving his medical degree from Yale, Strauss subsequently joined the Hospital of the University of Pennsylvania as a Resident in Dermatology and Research Fellow in the mid-1950s.⁵⁸⁶ At Pennsylvania, Strauss met fellow dermatologist Albert Kligman, who was also interested in acne. The two collaborated on a number of projects, one of which was testing the effect x-rays had on suppressing the activity of the sebaceous glands in acne patients. Using twenty-three

⁵⁸³ In a 1966 presentation to the Section of Dermatology at the 9th Annual Session of the California Medical Association, dermatologist Ronald M. Reisner listed over seventy compounds which had both the 'sebum suppressive effect desired for the control of acne and good control of menstrual cycling', a statistic that illustrated the growing tendency of dermatologists and physicians to prescribe combined progestin-estrogen therapies for treating acne. Ronald M. Reisner, 'Systemic Agents in the Management of Acne' presented to the Section of Dermatology at the 9th Annual Session of the California Medical Association in Los Angeles, 23 March, 1966.

⁵⁸⁴ Peter E. Pochi, and John S. Strauss, 'Sebaceous Gland Suppression With Ethynyl Estradiol and Diethylstilbestrol', *Arch Dermatol* 108 (1973), 1-5.

⁵⁸⁵ *Ibid.*

⁵⁸⁶ Strauss also served as an 'instructor at the University of Pennsylvania' before joining Boston University School of Medicine and 'rising through the ranks from Assistant Professor to Professor' in Boston. John Strauss obituary available from <https://www.thegazette.com/obituaries/john-straussmd-20140802-0001037064-01>, Accessed 10 August 2019.

male test subjects between the ages of fifteen and thirty from a school for mental defectives, Strauss and Kligman exposed them to dangerous levels of radiation to test whether or not x-rays could control their acne.⁵⁸⁷ While Strauss and Kligman's test raised ethical questions, the study nevertheless proved vital in understanding both the role of x-rays in treating acne and the pathophysiology of the condition. The duo concluded that acne could be automatically controlled if medical science was able to unearth a therapy which reduced the size of the sebaceous glands:

It is important to appreciate how x-rays improve acne. Comedones, which are merely inert bags of horny material, are not significantly affected. One could hardly expect their resorption. Inflammatory lesions present during therapy are not improved but generally aggravated. The value of x-rays is prophylactic: new lesions are prevented from forming. This suppressive effect is in force as long as there is considerable shrinkage of the sebaceous glands, and first becomes evident when this objective is accomplished. We have concluded from this and other studies that any agency which materially reduces sebaceous glands automatically controls the disease.⁵⁸⁸

Albert Kligman was a divisive figure. Professor of Dermatology at the University of Pennsylvania, he published over 500 dermatological papers and numerous books on topics as diverse as 'acne, rosacea, contact dermatitis and cutaneous toxicology' amongst many others.⁵⁸⁹ An engaging and witty lecturer, Kligman was respected by both his students and colleagues, but displayed a callous disregard towards the welfare of his test subjects. In one study investigating the pathogenesis of ringworm (*tinea capitis*), for example, Kligman opted to use

⁵⁸⁷ During both World War Two and the Cold War, vulnerable populations including soldiers, prisoners, disabled children and the mentally ill were used as research subjects in therapeutic and non-therapeutic experiments. According to Susan Lederer, many of the studies during the Cold War were 'clandestine and deceptive human experimentations' carried out by the American government who 'desired to maintain weapons' superiority, and if not superiority, then at least "parity" with the Soviet Union in any future conflict'. Susan Lederer, 'The Cold War and Beyond: Covert and Deceptive American Medical Experimentation,' in Thomas E. Beam and Linette R. Sparacino (eds), *Military Medical Ethics* (Washington, DC: Office of the Surgeon General, United States Army, 2003), 510. See also: Susan L. Smith, 'Mustard Gas and American Race-Based Experimentation in World War II', *J Law, Medicine & Ethics* 36, (2008), 517-521.

⁵⁸⁸ John S. Strauss and Albert Kligman, 'Effect of X-rays on Sebaceous Glands of the Human Face: Radiation Therapy of Acne', *J Invest Dermatol* 33 (1959), 347-356.

⁵⁸⁹ Shyam B. Verma, 'Albert Kligman, also a Hair Man', *Int J Trichol* 69 (2010), 69.

children from a ‘state institution for congenital mental defectives where tinea capitis was endemic’.⁵⁹⁰ In order to investigate how the infection developed, Kligman deliberately infected ten children, between the ages of five and ten, with ringworm – using his index finger to ‘vigorously rub’ their scalps with infected hair follicles. Although five children subsequently developed ringworm of the scalp, Kligman remarked that the study environment was ‘ideal’ due to the restricted setting allowing researchers to follow test subjects and ‘inoculate them at will’.⁵⁹¹

As well as using mentally defective children as test subjects, Kligman was also responsible for directing clinical tests on inmates serving time at Holmesburg prison between 1951 and 1974. In the post-war period, numerous experimentations used prisoners as human guinea pigs under the guise of enhancing medical science.⁵⁹² As a result of the FDA’s harsher drug testing laws in light of the thalidomide tragedy, which required a higher percentage of test subjects in Phase 1 drug trials, the pharmaceutical industry pursued closer ties with the American penal system – a move that was designed to allow their researchers easier access to test subjects.⁵⁹³ Using both federal and state inmates, researchers risked prisoners’ lives by having them take part in experiments examining a range of serious illnesses including: syphilis, malaria and viral hepatitis (amongst many more).⁵⁹⁴ Kligman paid prisoners a minimal sum of money only to be ‘exposed to pathogens responsible for skin infections, including the herpes virus,

⁵⁹⁰ Albert Kligman, ‘The Pathogenesis of Tinea Capitis Due to *Microsporum Audouini* and *Microsporum Canis*’, *J Investig Dermatol* 18 (1952), 231-46.

⁵⁹¹ *Ibid.*

⁵⁹² As Johnathan Moreno has demonstrated ‘by 1974 about three-quarters of all approved drugs in the United States had gone through prison research, and several drug companies built state-of-the-art facilities adjacent to prisons’. Jonathan D. Moreno, *Undue Risk: Secret State Experiments on Humans* (London: Routledge, 2013), 230.

⁵⁹³ As Allen Hornblum points out, ‘phase 1 drug testing now required larger pools of healthy subjects for non-therapeutic experiments, and using hospital patients was thought to be inadequate. Prisoners, on the other hand, were in abundance and, as one pharmaceutical company researcher commented, “guaranteed to show up”. Allen M Hornblum, ‘They Were Cheap and Available: Prisoners as Research Subjects in Twentieth Century America’, *BMJ* 315 (1997), 1437-41.

⁵⁹⁴ *Ibid.*

staphylococcus bacteria and the athlete's foot fungus'.⁵⁹⁵ His dermatological investigations also saw inmates exposed to the highly toxic chemical, dioxin – the substance considered to be the most potent ingredient in the infamous Agent Orange herbicide mixture used by the US military in the Vietnam War. In partnership with Dow Chemicals (which paid Kligman \$10,000 for his efforts) the dermatologist exposed Holmesburg inmates to 7500 micrograms of the lethal chemical – 486 times the dose Dow Chemical officials recommended was safe.⁵⁹⁶ With such dangerous tests the norm at Holmesburg, it was not long until Kligman's questionable testing methods caught the attention of the FDA. In the mid-1960s, the FDA charged Kligman with 'failure to comply with the conditions applicable to the use of investigative drugs, in that records and reports of drug investigations have been found to contain irregularities'.⁵⁹⁷ Of most concern to the FDA was Kligman's tendency to cut short the length of his tests if the initial results supported his original hypothesis. Moreover, in one of his studies, he had failed to disclose a severe adverse reaction suffered by an inmate prescribed a drug he was testing. With the thalidomide tragedy only recent history, Kligman attracted the attention of none other than Frances Kelsey, the FDA pharmacologist responsible for refusing to allow thalidomide to be sold in the US. Kelsey, who was then head of the Investigational New Drugs Branch of the FDA, questioned the safety protocols of various tests being conducted by Kligman at Holmesburg. Given that, between 1962 and 1966 alone, Kligman had overseen 193 separate studies testing a range of drugs, Kelsey came to doubt the accuracy of the results. After the FDA looked further into one of Kligman's studies on the contentious chemical DMSO in 1966, it banned him from carrying out any more drug tests from that point forth, notifying thirty-three pharmaceutical companies that the dermatologist was no longer able to work with them.

⁵⁹⁵ Denise Gellene, 'Dr. Albert M. Kligman, Dermatologist, Dies at 93', *New York Times* (22 February 2010).

⁵⁹⁶ This experiment was designed to investigate the toxic effects of the compound on human beings. Keramet Reiter, 'Experimentation on Prisoners: Persistent Dilemmas in Rights and Regulations', *Calif Law Rev* 97 (2009), 501.

⁵⁹⁷ Allen M. Hornblum, *Acres of Skin: Human Experiments at Holmesburg Prison* (London: Routledge, 1999), 53.

With this serious blow to his reputation, Kligman was said to have gone into a deep depression and stopped going to Holmesburg prison. However, in a remarkable turnaround, the FDA lifted their ban on Kligman only one month later and informed the drug companies that they could reconvene their partnership. Surprised at the sudden change of heart, FDA staff like Kelsey were suspicious about the events surrounding Kligman's quick reprieve. Given Kligman's close working relationship with several eminent medical men, many considered the FDA's sudden U-turn to have been a result of pressure from highly influential physicians such as Donald Pillsbury, a leading dermatologist, and Luther Terry, a former US surgeon general.⁵⁹⁸ Kligman, now free to continue the drug testing programme, turned his attention to investigating the potential therapeutic benefits of treating acne with vitamin A.⁵⁹⁹ Experimenting with both oral and topical vitamin A, Kligman prescribed huge doses to Holmesburg inmates. He would later admit that he had nearly killed test subjects in his quest to determine the maximum dosage of oral vitamin A human beings could tolerate.⁶⁰⁰

Though Kligman's methods for testing the effects of vitamin A were new, he was not the first dermatologist to realise its potential for treating a range of skin diseases, including acne. In the early to mid-twentieth century, for example, vitamin A deficiency was thought to be responsible for skin diseases like 'ichthyosis, Darier's disease and psoriasis'.⁶⁰¹ Testing the hypothesis that acne, too, could be a cutaneous manifestation of vitamin A deficiency, dermatologist Jonathan V. Straumfjord was the first to consider the vitamin as a potential treatment for the condition in 1943.⁶⁰² Straumfjord placed seventy-nine acne sufferers on a high dose of 1000 IU of daily

⁵⁹⁸ Ibid, 56.

⁵⁹⁹ Albert M. Kligman, 'Evaluation of Cosmetics for Irritancy', *Toxicol Appl Pharmacol* 14 (1969), 30-44.

⁶⁰⁰ Ibid.

⁶⁰¹ Elizabeth H. Heller and Norman J. Shiffman, 'Synthetic Retinoids in Dermatology', *CMAJ* 132 (1985), 1129-36.

⁶⁰² Jonathan V. Straumfjord, 'Vitamin A: Its Effects on Acne', *Northwest Med* 42 (1943), 225.

vitamin A for six months, and showed that all but three achieved a complete clearing of their pustules. Thomas Sanders, Professor of Dermatology at the Oregon Medical Health Sciences University, discovered a similar effect. Having originally taken vitamin A in an attempt to relieve sinusitis, Sanders noticed that the acne lesions on his back had completely cleared, only to reappear once he had finished his course of treatment.⁶⁰³ Despite Straumfjord and Sanders' studies apparently proving the benefits of vitamin A as an acne treatment, dermatologists such as Francis Lynch and Charles D. Cook urged restraint in recommending the vitamin as a cure for acne. Although their own study found half of the fifty-two university students treated with the vitamin had experienced positive results, others showed only slight improvements in the health of their skin.⁶⁰⁴

An unproven therapy for acne, vitamin A also posed serious risks to those who took excessive doses. In the post-war era, stories of vitamin A toxicity was reported regularly in medical journals. In 1953, for example, the *Annals of Internal Medicine* featured the case of a Mexican store clerk who was suffering from debilitating symptoms such as a rash, excessive hair loss, muscle and joint pain. At first, the doctors were puzzled. Upon further questioning of the man, however, he revealed that he regularly consumed around 25,000 units of vitamin A daily.⁶⁰⁵ Shocked at the admission, the doctors concluded that the man was suffering from Hypervitaminosis A, which could also result in symptoms such as nausea, liver enlargement and a loss of appetite.⁶⁰⁶ Reports of female teenage acne sufferers taking overdoses of vitamin A were also common in North America. In 1971, for example, Canadian physician Paul Gelpke

⁶⁰³ Thomas S. Saunders, 'Favorable Effects of Vitamin A in a Case of Acne of Long Duration', *Arch Derm Syphilol* 50 (1944), 199.

⁶⁰⁴ Francis Lynch and Charles D. Cook, 'Acne Vulgaris Treated with Vitamin A', *Arch Derm Syphilol* 55 (1947), 355-357.

⁶⁰⁵ Ernest W. Shaw and Juan Z. Niccoli, "Hypervitaminosis A: A Report of a Case in an Adult Male", *Ann Intern Med* 39 (1953) 131-134.

⁶⁰⁶ Alan K. Silverman, Charles N. Ellis and John J. Voorhees, 'Hypervitaminosis A Syndrome: A Paradigm of Retinoid Side Effects', *JAAD* 16 (1987), 1027-1039.

expressed concern about the ‘ease with which vitamin A can be obtained by over-the-counter sales in this country’.⁶⁰⁷ In his letter to the editor of the *Canadian Medical Association Journal*, Gelpke described treating a fifteen-year-old girl who became acutely unwell in hospital after suddenly developing severe headaches, vomiting and diplopia (double vision).⁶⁰⁸ Upon examining the girl, Gelpke found her to be suffering from strabismus (cross eyes) and papilledema (swelling of the optic nerve) and initially diagnosed her with a ‘probable cerebral tumour’.⁶⁰⁹ Following a conversation with the girl, however, Gelpke learned that she had been taking a daily dose of 200,000 units of vitamin A for two years as a treatment for her facial acne. After discounting her dose of vitamin A, the girl made a ‘complete and dramatic recovery’ with Gelpke urging his colleagues that large doses of vitamin A often induced benign intracranial hypertension.⁶¹⁰

Although the dangers associated with high levels of vitamin A had been known to doctors and explorers since the early twentieth century, dermatologists reinitiated their interest in the vitamin during the early 1960s.⁶¹¹ During this period, the Swiss physician Werner Bollag started researching the potential value of retinoids for treating a range of cancers. During his investigations while chief of cancer research for F. Hoffmann-La Roche & Company in Basel, Switzerland, Bollag began to experiment with the compound 13-cis-retinoic acid – the

⁶⁰⁷ Paul Gelpke, ‘Vitamin A intoxication’, *CMAJ* 104 (1971), 533.

⁶⁰⁸ *Ibid.*

⁶⁰⁹ *Ibid.*

⁶¹⁰ According to the National Eye Institute, intracranial hypertension ‘is a condition due to high pressure within the spaces that surround the brain and spinal cord’. <https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/idiopathic-intracranial-hypertension>, Accessed 10 August 2019.

⁶¹¹ Since at least the sixteenth century explorers have known of the dangers of eating the livers of bears – an organ which has been found to contain dangerously high levels of vitamin A. During an expedition in 1913 to the Arctic led by explorer, Dr Jens Lindhard, nineteen men who ate a stew containing bear liver became chronically unwell. As well as suffering from symptoms such as drowsiness, sluggishness, irritability and an incredible desire to sleep, the men complained of unbearable headaches and an incredible pressure build up within their skulls. Over the next twenty-four hours ten of the nineteen men’s skin began to peel around their face and spread over larger areas of their bodies. K. Rodahl and T. Moore ‘The vitamin A content and toxicity of bear and seal liver’, *Biochem J* 37 (1943), 166-168.

compound which was to later become isotretinoin.⁶¹² Despite retinoids being of ‘particular interest in experimental and clinical oncology’, Bollag noticed that 13-cis-retinoic acid was unfortunately teratogenic and highly likely to cause birth defects in the offspring of women prescribed the drug.⁶¹³ While the compound had proven to be ineffective at treating skin cancer, Bollag noticed that it was a potent anti-acne therapeutic.⁶¹⁴ Coming at a time when the full scale of the thalidomide tragedy was becoming clear in Britain and mainland Europe, however, he decided against continued experimentation.

Although Bollag refrained from carrying out further experiments testing isotretinoin’s potential for treating acne, other dermatologists continued to use vitamin A for treating a range of stubborn and potentially deadly skin conditions. In 1962, German dermatologist Gunter Stuggen ‘demonstrated that topical tretinoin (topical vitamin A) was able to penetrate the epidermis’ and subsequently went on to successfully treat a set of Californian twins suffering from an extreme case of ichthyosis.⁶¹⁵ In partnership with Hoffmann-La Roche, Gunter submitted a patent application for tretinoin to be used primarily as a ‘cosmetic application’. Seeing the vast potential of the therapy, Stuggen also tested whether the treatment could be useful in treating both actinic keratosis (coarse patches of skin caused by overexposure to the sun) and basal cell carcinoma. Despite the treatment showing enormous promise in treating these conditions, Stuggen noted severe irritation and skin peeling (desquamation) associated

⁶¹² Lawrence K. Altman, ‘Medical Dilemma: Necessary Drugs with Intolerable Dangers’, *New York Times* (3 May 1988).

⁶¹³ Werner Bollag, ‘Retinoids in Oncology: Experimental and Clinical Aspects’, *Pure Appl Chem* 66 (1994), 995-1002.

⁶¹⁴ Carsten Timmermann has argued that ‘the retinoids epitomised the principle that drugs with strong beneficial effects often also had strong adverse effects – this is one of the reasons why so few drugs survive the journey from animal experiment to marketed medicine. However, the risk of birth defects was much reduced for later generations of retinoids, which illustrates one of the directions in which these substances could be further improved through continuing research and development’. Carsten Timmermann, *Moonshots at Cancer: The Roche Story* (Basel, Editiones Roche, 2020) 112. For more on the history and development of vitamin A and retinoids see pp. 108-112.

⁶¹⁵ Gunter Stuggen ‘Historical Perspectives of Tretinoin’, *JAAD* 15 (1986), 735-740.

with topical tretinoin. Undeterred, in 1969 Albert Kligman – along with colleagues James Fulton and Gerd Plewig – announced that topical vitamin A acid was also effective in treating acne by ‘increasing the rate of production of loose horny cells in the follicular canal, thus preventing formation of comedones and unseating existing ones’.⁶¹⁶ In order to demonstrate tretinoin’s efficacy, the researchers provided several before and after pictures which showed a remarkable reduction in the number of acne lesions on the patients’ faces (Figure 47, 48 and 49).

Fig 2.—A 17-year-old subject before treatment. Note the numerous open and closed comedones.

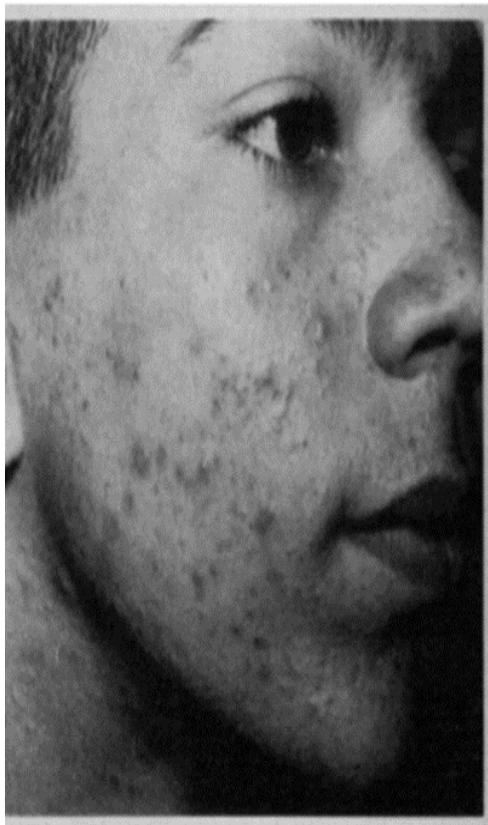


Figure 47 ‘A 17-year-old before treatment with tretinoin’.⁶¹⁷

⁶¹⁶ Albert M. Kligman, James E. Fulton and Gerd Plewig, ‘Topical Vitamin A Acid in Acne Vulgaris’, *Arch Dermatol* 99 (1969), 469-476. During this trial the authors admitted that ‘the treatment frequently produces a worsening of the clinical picture during the initial phase of therapy. It is palliative, not curative; relapses occasionally occur when treatment is stopped’.

⁶¹⁷ *Ibid.*

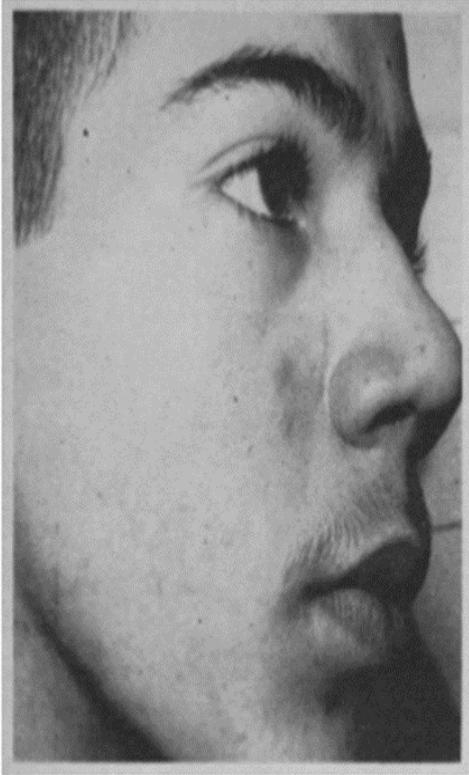


Fig 3.—The Fig 2 subject after three months of topical vitamin A acid. The open and closed comedones have exfoliated with a consequent reduction in inflammatory lesions.

Figure 48 ‘Subject after three months of topical vitamin A treatment’.⁶¹⁸

⁶¹⁸ Ibid.



Fig 4.—Paired comparison between vitamin A acid on the left side and benzoyl peroxide on the right after two months of treatment. Originally there was an even distribution of comedones on both sides. The superiority of vitamin A acid is evident.

Figure 49 ‘Comparison between vitamin A acid and benzoyl peroxide’.⁶¹⁹

Although the pictures illustrated the apparent effectiveness of topical vitamin A, the positive aspects were nonetheless negated by the potent effects the therapy had on the skin of acne sufferers. While most topical acne therapies inflamed the skin to a certain degree, topical vitamin A was marked by its tendency to cause long term irritation. After every application, for example, patients were warned to expect their faces to become inflamed within forty-eight hours. Characterised by redness and scaling, the authors claimed that ‘maintaining moderate

⁶¹⁹ Ibid.

redness and peeling' was desirable as the inflammation helped unseat comedones. However, although the researchers did acknowledge that topical vitamin A came with vexing side-effects, they were nevertheless quick to imply that the potential success of the treatment ultimately depended on patients' determination to stick with the therapy for the long term:

The aim is to apply that quantity which will maintain moderate redness and peeling. Discomfiture about the mouth and angles of the nose is particularly disagreeable if the medication is carelessly applied. Even with excessive use, the skin recovers within a few days after stopping treatment. Deeply motivated subjects should not be dissuaded from increasing the frequency of application for patients with the most irritated faces achieve the most rapid improvement.⁶²⁰

As shown in the above extract, the authors were eager to distance themselves from taking responsibility for tretinoin's failings. By using terms such as 'carelessly applied' and 'deeply motivated subjects' they, instead, looked to shift the blame on to acne sufferers themselves. Claiming that 'patients with the most irritated faces achieve the most rapid improvement' inferred that, if acne sufferers had ambitions of achieving a clear complexion, they were required to endure some hardship in the meantime. In the comments section of their paper, however, they revealed some of the therapy's disadvantages. Not only did topical vitamin A fail to cure acne, but the dermatologists also revealed that 'the persistent nodular and cystic forms may even be made worse'. Moreover, upon stopping vitamin A therapy, patients were warned that they would inevitably suffer a further relapse of their acne within as little as three weeks. Despite the clear negatives associated with the treatment, though, the dermatologists did reassure acne sufferers that it was nevertheless the 'most effective member of the topical acne therapies'.⁶²¹ Having gained approval for topical tretinoin (known by its brand name as Retin-A) to be used in the treatment of acne, the drug was released by Ortho Pharmaceutical onto the market in 1971. The poor safety profile and unwanted side effects of the drug, however, soon

⁶²⁰ Ibid.

⁶²¹ Ibid.

resulted in some doctors warning that long term use of tretinoin for treating acne was unfeasible.⁶²² With patients unable to cope with the side-effects and doctors uncertain about tretinoin's long term use in the treatment of acne, the search for a cure continued throughout the 1970s. The need for a suitable long-term therapy for severe cases was encapsulated in 1976 by dermatologists such as Rudolf L. Baer, Steven M. Leshaw and Alan R. Shalita, who warned that high dose tetracycline therapy and corticosteroids, normally prescribed to treat the severe cases of the condition, were linked to liver damage and other unwanted side effects:

There is an urgent need for an effective form of treatment that could be maintained reasonably safely over a period of months or years. Systemically administered corticosteroids, often effective, must be given over prolonged periods of time in doses that often cause undesirable side-effects. Sulfones, reported to be effective in treating severe forms of acne, may produce hematologic and other side-effects.⁶²³

Despite numerous attempts to discover a reliable and safe treatment for acne, by the 1970s, dermatologists and their patients continued to be frustrated.

Conclusion

From the mid-twentieth century onwards doctors and dermatologists also used a plethora of treatments and procedures to improve both acne sufferers' skin complexion and their mental health. Dermatologists were particularly concerned with the problem of excoriated acne, whereby sufferers picked compulsively at their blemishes and exacerbated scarring. As a result, physicians and skin specialists prescribed treatments such as tranquilizers, anti-depressants and, in some instances, hypnotherapy to treat depressed acne sufferers. As facial scarring was

⁶²² Anon, 'Tretinoin in Acne: Retin-A', *Drug Ther Bull* 11 (1973) 49-50. Included at the bottom of this bulletin is a segment detailing how much it cost the NHS to prescribe some of the available acne creams. Quinoderm is the cheapest at sixteen pence per 25 grams, Benoxyl is priced at thirty-two pence a bottle, Brasivol is priced at seventy pence a bottle, while Tretinoin is the most expensive at ninety pence per bottle.

⁶²³ Rudolf L. Baer, Steven M. Leshaw and Alan R. Shalita, 'High-Dose Tetracycline Therapy in Severe Acne', *Arch Dermatol* 112 (1976), 479-481.

associated with causing anxiety and depression, dermatologists offered surgical procedures such as dermabrasion therapy and dangerous chemical peels to minimise facial scarring and improve sufferers' quality of life. The apparent influence surgical procedures like dermabrasion therapy had on improving acne sufferers' mental health led to the therapy receiving the attention of both dermatologists and psychiatrists in the early 1960s. Several studies, for example, spoke of dermabrasion therapy improving acne sufferers' complexions which often lead to marked improvements in their mental well-being.

While there were several benefits associated with the above-mentioned drugs and procedures, they were nevertheless invasive, dangerous and frequently provided little clinical benefits. Dermatologists and the pharmaceutical industry therefore desired to find an effective treatment which would suppress the sebum levels in those prone to breakouts of acne. Treatments such as hormonal therapies, oral contraceptives, high doses of vitamin A and new retinoid compounds like tretinoin were used by dermatologists with varying success. The desire to cure acne also meant that acne sufferers were exposed to potentially deadly drugs, some of which were tested on vulnerable groups. Although dermatologists' armamentarium of therapies sometimes alleviated sufferers' acne, it often failed to offer a cure. As Chapter 6 demonstrates, the discovery of a possible cure in the late 1980s, then, was naturally well received by the medical profession, the media and acne sufferers alike. Despite Accutane's unrivalled ability to cure severe forms of acne, though, the drug soon became one of the most notorious and dangerous drugs on the market.

Chapter 6

Birth of A Wonder Drug

In her syndicated column published on 31 July 1987, Elizabeth Winship published a response from a woman who had suffered acne from the age of eleven. ‘Pat from Belmont’ claimed that, during her teenage years, seeing girls with ‘nice skin’ made her ‘die inside’.⁶²⁴ Now ‘grown and married’, Pat described how Accutane changed her life by ‘answering all her dreams’ and urged ‘kids to go to a doctor for treatment as soon as they need it’.⁶²⁵ In the early to mid-1980s, newspapers and magazines regularly featured stories which described the ‘almost miraculous’ efficacy of Accutane and quoted dermatologists such as Alan Shalita who claimed that, thanks to Accutane, ‘there is little reason for almost anybody to suffer with acne’.⁶²⁶

This chapter begins by examining the introduction of Accutane for treating severe acne and explores how the drug was received by the media, patients and the dermatological community. It argues that Accutane was fast-tracked through the drug approval process and demonstrates how Ronald Reagan’s dismantling of the patient package insert (PPI) scheme exposed more fetuses to the teratogenic effects of Accutane. The chapter then proceeds to examine the challenges the FDA faced when trying to regulate the potent teratogenic and considers the pressures the agency faced from both proponents and opponents of Accutane. The chapter concludes by exploring Accutane’s link to other serious side-effects such as bowel disorders, depression and suicide.

⁶²⁴ ‘Ask Beth’ column, *Boston Globe* (31 July 1987).

⁶²⁵ *Ibid.*

⁶²⁶ Earl Ubell, ‘How Doctors Can Save YOUR SKIN’, *Boston Globe* (19 January 1986).

On 27 November 1976, an article entitled: “Treatment of Lamellar Ichthyosis and Other Keratinising Dermatoses with an Oral Synthetic Retinoid” appeared in the *Lancet*. With treatment options for alleviating symptoms of the genetic skin condition lacking, two dermatologists based at the National Institutes of Health (NIH) in Bethesda, Maryland turned to a drug known as isotretinoin – a synthetic retinoid made by the Swiss pharmaceutical company, Hoffmann-La Roche. Study authors, Gary Peck and Frank Yoder, noted that isotretinoin ‘may be more effective and is less toxic than naturally occurring ‘retinoic acid’, and were optimistic about the drug’s potential for treating disorders of keratinization.⁶²⁷ Peck and Yoder hailed the ‘excellent improvements’ recorded in thirteen patients with disorders of keratinization such as Lamellar Ichthyosis, Darier’s disease and pityriasis rubra, not least the complete clearing of the skin in the five Lamellar Ichthyosis sufferers.⁶²⁸ Peck and Yoder’s study received praise from the wider dermatological community, with Peck being invited to discuss his findings at a weekly seminar organised by Albert Kligman. After the talk, Kligman invited Peck to join him and some other colleagues for lunch.⁶²⁹ During lunch, Peck was questioned further on his findings and was asked by Kligman if the isotretinoin used in the study had improved or worsened the patients’ acne. As it had not occurred to Peck or Yoder that isotretinoin could be potentially useful in treating the condition, they subsequently carried out another study at NIH that focussed on acne. The study recruited fourteen participants suffering from treatment resistant cystic and conglobate acne who had little success with the conventional acne treatments. Working in collaboration with other dermatologists - including John Strauss - Peck and Yoder administered 2.0mg of isotretinoin per day to the patients for

⁶²⁷ Gary L. Peck and Frank W. Yoder, ‘Treatment of Lemellar Ichthysosis and Other Keratinising Dermatoses with an Oral Synthetic Retinoid’, *Lancet* 308 (1976), 1172-1174. Disorders of keratinization disorders are a ‘large and heterogeneous group of disorders of cornification, the majority of which are genetically determined’. For more see: <https://geneskin.org/rare-genetic-diseases-of-the-skin/diseases/keratinization-disorders>, Accessed 9 July 2019.

⁶²⁸ Ibid.

⁶²⁹ Elaine Siegfried, ‘Isotretinoin’s Discovery and Development: Expert Discusses Pearls Gleaned from Initial Clinical Observations’, *Dermatology Times* (September 2015).

four months and were stunned by the results. While thirteen patients ‘experienced complete clearing of their skin the other had seventy-five per cent improvement as determined by the number of acne nodules and cysts before and after therapy’.⁶³⁰ The dermatologists suggested that the ‘mechanism of action in the therapy of acne probably involved a direct inhibitory effect of the drug on the sebaceous gland’.⁶³¹ Claiming that sebum production had been reduced by over 90% in the patients, Yoder and Peck included pictures with their paper in order to highlight the drug’s impressive results (Figure 50).

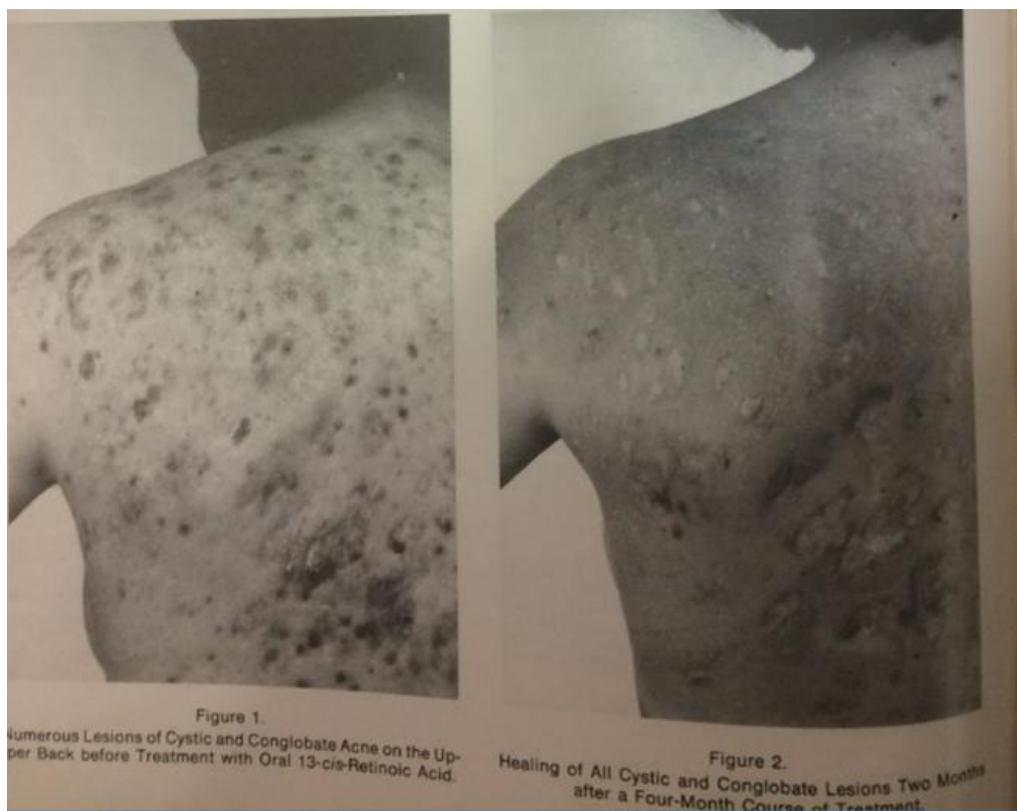


Figure 50 ‘Before and after treatment with Isotretinoin’.⁶³²

Peck and Yoder’s findings attracted interest from Hoffman La Roche who had sent the NIH gelatine capsules of the 13-cis-isomer to treat those suffering from ‘severe disorders of

⁶³⁰ Peck et al, ‘Prolonged Remissions’, 329-333.

⁶³¹ Ibid.

⁶³² Ibid.

keratinization'.⁶³³ Excited about the significant monetary potential of a cure for acne, Roche began testing the drug on animals. During testing, however, teratogenicity was observed in rats and rabbits given the drug.⁶³⁴ Despite the discovery, Roche conducted several clinical trials which yielded promising results.⁶³⁵ In 1980, for example, *JAMA* medical reporter, Phillip Gunby, revealed that isotretinoin had produced 'extensive remissions of cystic and conglobate acne' in forty-seven patients treated with the drug in two separate trials.⁶³⁶ Eager to promote isotretinoin's potential for treating severe and hitherto treatment resistant forms of acne, Peck and Roche used the AAD's 1980 annual meeting to discuss the results of the original study and a small series of ongoing follow up studies designed to confirm their original findings.⁶³⁷ Joined by Dorothy B. Windhorst, Director of Clinical Research for Dermatology at Roche's American branch in New Jersey, Peck revealed that the retinoid was currently being used 'experimentally for acne' in medical research centres throughout the US including the University of Iowa, Boston University, the Downside Medical Centre and State University of New York.⁶³⁸ Although Peck and Windhorst enthused about isotretinoin's potential for treating aggressive forms of acne and various cancers, they admitted that patients involved in various trials had suffered, in various degrees of severity, from side-effects such as 'cheilitis, facial dermatitis, pruritus, conjunctivitis, rhinitis sicca, xerosis, skin fragility, arthralgias and, in a subset of patients, an elevation of triglycéride levels'.⁶³⁹

⁶³³ Siegfried, 'Isotretinoin's Discovery and Development', (September 2015).

⁶³⁴ Green, 'Babies, Blemishes and the FDA' (March 2002), 1-26.

⁶³⁵ For more on the dosages of isotretinoin used in animal testing see: William S. Webster, 'The Use of Animal Models in Understanding Human Teratogens', *Congenit Anom* 28 (1988), 295-302.

⁶³⁶ Phillip Gunby, 'Experimental Retinoid Effective in Treatment of Severe Acne', *Medical News* (January 1980), 11. As well as being used as an anti-acne therapeutic, researchers began a clinical chemoprevention trial with 'volunteers who are at high risk for bladder cancer' and patients suffering from basal cell carcinomas.

⁶³⁷ *Ibid.*

⁶³⁸ Lawrence N. Farrell, John S. Strauss and Anna M. Stranieri, 'The Treatment of Severe Cystic Acne with 13-Cis-Retinoic Acid: Evaluation of Sebum Production and the Clinical Response in a Multiple-Dose Trial', *JAAD* 3 (1980), 602-611.

⁶³⁹ *Ibid.*

Side-effects notwithstanding, Roche submitted a New Drug Application (NDA) to the FDA in 1981 to gain approval for the drug to treat cystic and conglobate acne. Congress had passed the Kefauver-Harris Drug Amendments in 1962, thus enabling the FDA to test both a drug's efficacy and safety, which – as detractors claimed – unreasonably increased the time required for a new drug to be approved.⁶⁴⁰ Given this, Roche was surprised when the FDA decided to approve Isotretinoin within ten months. The FDA sent the drug, trademarked Accutane, to their Dermatologic Drugs Advisory Committee, which recommended that it be assigned a category X risk rating.⁶⁴¹ A category X risk rating meant that 'studies in animals or humans have demonstrated fetal abnormalities and/or there is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience'.⁶⁴² Roche asked the FDA in their original application to assign Accutane with a pregnancy category C rating, which meant that 'animal reproduction studies have shown an adverse effect on the fetus but there are no adequate and well-controlled studies in humans'.⁶⁴³ Although Roche were correct in stating that there had been no evidence of the drug causing birth defects in human test subjects during their clinical trials, the pharmaceutical company failed to disclose that most test centres had deliberately excluded female participants from taking part.⁶⁴⁴ In July 1981, Roche submitted its 'new drug application' (Figure 51) to the FDA who approved on 21 May 1982.⁶⁴⁵

⁶⁴⁰ Krause, 'Accutane', 1-30.

⁶⁴¹ Ibid.

⁶⁴² 'FDA Pregnancy Categories', U.S Department of Health & Human Services, available from <https://chemm.nlm.nih.gov/pregnancycategories.htm>, Accessed 14 August 2017.

⁶⁴³ Ibid.

⁶⁴⁴ Green, 'Babies, Blemishes and FDA: A History of Accutane Regulation in the United States', 2002.

⁶⁴⁵ 'Accutane – Is this Acne Drug Treatment Linked to Depression and Suicide?' Hearing before the Committee on Government Reform, House of Representatives 162nd Session (5 December 2000). Transcript available from <https://archive.org/details/gov.gpo.fdsys.CHRG-106hhr73924/page/n5>, Accessed 5 May 2019.

New Drug Evaluation

***Important New Chemical Entity Approved.** Isotretinoin, an important therapeutic gain in the treatment of cystic acne, has been approved for marketing. The U.S. is the first nation to approve this drug. Cystic acne is more severe than the typical acne that occurs during the teenage years. It is a chronic disorder of the oil glands that can cause deep pitting and scarring, which does not respond to other forms of treatment such as antibiotic therapy.

Isotretinoin, also known as 13-cis retinoic acid, is a derivative of Vitamin A. It will be marketed in capsule form under the trade name Accutane. The exact mechanism of action of the drug is unknown, but recent evidence suggests it reduces the size of the oil glands, decreasing their production of fatty material. The most common adverse reaction to the drug is severe drying and chapping of the lips, which occurs in about 90 percent of the patients taking this medication. Laboratory findings show that 25 percent of treated patients have an increase in triglycerides or fatty substances in the blood and a smaller percent of patients have elevated cholesterol levels. (NCDB)

Figure 53 New Drug Application.⁶⁴⁶

In 1982, the FDA introduced Accutane, revealing that ‘the most common adverse reaction to the drug was severe drying and chapping of the lips, which occurs in about 90 per cent of patients taking this medication’.⁶⁴⁷ Though Accutane had the potential to revolutionise the treatment of severe acne, there was confusion regarding how the drug worked and its associated dangers. Some dermatologists, for example, admitted to being unsure ‘why its effects are so long lasting’ and suggested ‘that once the sebaceous glands are suppressed for a prolonged period, they cannot return to their pre-treatment state’.⁶⁴⁸ In spite of such concerns, Roche claimed that Accutane caused ‘the glands to shrink temporarily’. Although Roche officials admitted that they did not know how Accutane worked, they nonetheless claimed that it ‘was a major medical breakthrough for those who suffer cystic acne’.⁶⁴⁹

⁶⁴⁶ FDA Quarterly Activities Reports, 1982, 3rd Quarter (Rockville, Maryland: Food and Drug Administration), 16.

⁶⁴⁷ Ibid.

⁶⁴⁸ Catherine Macek, ‘Synthetic Vitamin A Analogue (Isotretinoin) Awaiting Approval for Cystic Acne Therapy’, *JAMA*, 247 (1982), 1801.

⁶⁴⁹ Anon, ‘Accutane Works But Exactly How Still a Mystery’, *Washington Post* (14 September 1982).

Despite confusion regarding both the drug's mechanism of action and its safety profile, Accutane was warmly received by the American media. Lynne Arave of the *Deseret News*, for example, hailed Accutane as a 'super drug' and suggested that it was 'about as close to a perfect cure for severe acne as anyone could possibly expect'.⁶⁵⁰ Other articles described the 'dramatic breakthrough' and promised cystic acne sufferers that, if they obtained the drug, their skin would be completely clear within four months.⁶⁵¹ Though the media promised cystic acne sufferers that they could expect 'complete remissions for up to several years', they warned that the treatment was expensive; each course cost patients an average of \$1000.⁶⁵² Amidst the fervour, some took a more cautious approach in their reportage. Natalie Smith of the *Columbia Missourian*, for instance, cautioned that, although Accutane could possibly cure cystic acne, 'it must be handled cautiously by experts or the drug could do more harm than good'.⁶⁵³ Smith included an interview with Dr Phillip Anderson, a dermatologist from the University Health Sciences Centre in Missouri. Although Anderson welcomed Accutane, he reminded potential consumers that the drug was not like the 'vitamin A pills sold over the counter' and was, instead, 'a powerful biologic agent'. As Anderson explained, patients taking the drug had the potential to suffer from a range of side effects such as joint pain, fatigue, eye problems and severe drying of the skin; doctors were advised to proceed with 'exceptional caution'.⁶⁵⁴

The uncertainty surrounding the safety of Accutane failed to dissuade acne sufferers from seeking a prescription. During Accutane's first sixteen months on the market, it was calculated that 120,000 women of childbearing age used the drug.⁶⁵⁵ While acne sufferers, the media and

⁶⁵⁰ Lynn Arave, 'Accutane Provides Miraculous Cure for Acne', *Deseret News* (16 November 1982).

⁶⁵¹ "Ask Beth" column, 'There's a New Treatment for Severe Cases of Acne', *Boston Globe* (17 December 1982).

⁶⁵² Arnold Mazur, 'Sure Remedies Cure Common Ailments', *The Heights* (September 1982).

⁶⁵³ Natalie Smith, 'Costly Drug May Relieve Severe Acne', *Columbia Missourian* (September 1982).

⁶⁵⁴ *Ibid.*

⁶⁵⁵ Robert S. Stern, Franz Rosa and Carlene Baum, 'Isotretinoin and Pregnancy', *JAAD* 10 (1984), 851-854.

dermatologists welcomed Accutane, reports of the drug causing serious birth defects began to surface. Pregnant women exposed to the drug during the first trimester of pregnancy were at an increased risk of suffering miscarriages, a condition dubbed ‘Isotretinoin Teratogen Syndrome’.⁶⁵⁶ For women who did not suffer a spontaneous abortion and gave birth, the effect isotretinoin had on their babies was devastating.⁶⁵⁷ In one case, a thirty-one-year-old acne sufferer was prescribed 50mg of isotretinoin per day for several months and had taken the drug during the first six to seven weeks of her pregnancy. Her baby was born with a head circumference of 29 cm, undifferentiated ears and a cleft palate, amongst many other problems (Figure 52).⁶⁵⁸



Fig 1.—Left, Facies of case 1. Center, Facies of case 2. Right, Facies of case 2.

Figure 52 ‘Isotretinoin Teratogen Syndrome’.⁶⁵⁹

Responding to the problem, Roche sent seven ‘Dear Doctor’ letters to physicians, advised blood banks against taking blood from anyone using Accutane, and the FDA included a boxed

⁶⁵⁶ Paul J. Benke, ‘The Isotretinoin Teratogen Syndrome’, *JAMA* 251 (1984), 3267.

⁶⁵⁷ *Ibid.*

⁶⁵⁸ *Ibid.*

⁶⁵⁹ *Ibid.*

warning with the drug in 1985.⁶⁶⁰ Division Director of Anti-Infective Drug Products at the FDA, Dr Edward Tabor, labelled the steps taken to prevent women taking the drug whilst pregnant ‘severe’, ‘radical’ and ‘extreme’:

The measures included – in addition to the box contraindication against use in pregnancy and a reduction in starting dosage for Accutane – a colour brochure distributed by doctors and pharmacists; a patient leaflet, included with each bottle; and red warning stickers to be placed on each bottle by the pharmacist. All these warned against starting Accutane if there was a chance that the patient was pregnant.⁶⁶¹

Data from the Division of Epidemiology and Biostatistics in 1988 showed that initial prevention strategies had failed in two specific ways. Firstly, the measures failed to prevent ‘the widespread overprescribing of Accutane’ to men and women who did not meet the criteria on the labelling which stated that Accutane was indicated specifically for ‘severe recalcitrant cystic acne’.⁶⁶² Secondly, the data demonstrated that prevention methods had not ‘prevented the occurrence in patients using Accutane – including pregnancies that were apparently in progress at the time Accutane therapy was begun’.⁶⁶³

Amidst increasing cases of Accutane-related teratogenicity, the FDA approved another of Roche’s potent retinoids for the treatment of severe psoriasis in 1986.⁶⁶⁴ Marketed as Tegison, the drug was found to be even more toxic and dangerous to the foetus than Accutane. Although warnings on the labelling informed the patient that the duration Tegison stayed in the system was unknown, such was its toxicity that experts were unable to guarantee the safety of any future pregnancy once women of child bearing age had taken a course of the drug. Researchers

⁶⁶⁰ R. C. Hansen, ‘Accutane Revisited: Severe Birth Defects from Acne Therapy’, *Ariz Med* 42 (1985), 363-365.

⁶⁶¹ Food and Drug Administration Center For Drug Evaluation and Research, Dermatologic Drugs Advisory Committee. Open Public Hearing NDA 18-662 Accutane (isotretinoin) Capsules (26 April 1988), 15. Full transcript available <https://wayback.archive-it.org/7993/20170403222750/https://www.fda.gov/ohrms/dockets/ac/88/62t1a.pdf>, Accessed 7 July 2019.

⁶⁶² *Ibid.*, 16.

⁶⁶³ *Ibid.*

⁶⁶⁴ Gina Kolata, ‘A Second Skin Drug Is Called Major Threat for Birth Defects’, *New York Times* (1 May 1988).

theorised that the devastating effect of retinoids on the developing foetus was due to its action to inhibit the growth of certain cells. Although Roche were aware of the teratogenicity of retinoids, by the time Tegison reached the market, company spokeswoman Carolyn Glynn disclosed to the *New York Times* that Roche was investigating ten new retinoid-based drug therapies for treating conditions like moderate acne, psoriasis, head and neck cancer as well as lung cancer and malignant melanoma.⁶⁶⁵ By 1988, 1500 other compounds closely related to the drug were in production.⁶⁶⁶ In that year, Accutane sales totalled over \$50 million; by comparison, Tegison sales only reached \$4 million per year. Critics such as Warwick L. Morison, a dermatologist at the John Hopkins Medical Institute, claimed to be both ‘amazed’ and ‘dismayed’ that the FDA were even considering approving a drug found to be more teratogenic than Accutane:

Simply stated, despite our experiences with the teratogenicity of isotretinoin, we are being provided with a better and more effective means of ensuring that the number of malformed infants born to our patients will be increased. Etretnate is not only more teratogenic but is also retained in the body much longer and, therefore, had greatly increased potential for teratogenicity.⁶⁶⁷

With the FDA and Roche under fire for the increasing number of dangerous retinoids being introduced to the market, attention turned to Accutane’s approval time. When Ronald Reagan became president in 1981, he promised to reform the FDA and streamline the drug review process with the intention of quickening the approval of new drugs.⁶⁶⁸ Such an action undermined the 1962 Kefauver-Harris Drug Amendments, which tested both a drug’s efficacy

⁶⁶⁵ Ibid.

⁶⁶⁶ Ibid.

⁶⁶⁷ Warwick L. Morison, ‘Etretnate: Do We Need It?’, *Arch Dermatol* 122 (1986), 133. In this letter, Warwick also asked whether the medical community ‘even needed Etretnate’. Although Etretnate was effective in treating erythrodermic and pustular psoriasis, most patients suffering from these forms of the skin condition responded well to therapies such as methotrexate. With psoriasis proving difficult to treat, Morison believed many physicians would turn to the drug to appease their desperate patients. As a result, instead of a small number of patients receiving the drug, Warwick feared thousands of patients suffering from normal psoriasis would be exposed to the teratogen.

⁶⁶⁸ Richert, *Conservatism, Consumer Choice, and the Food and Drug Administration*, 90.

and safety profile.⁶⁶⁹ Detractors, such as clinical pharmacologist William M. Wardell, had argued that the FDA's new powers markedly lengthened the time a new drug took to reach the market. Wardell showed that, between 1962 and 1971, 'nearly four times as many new drugs became exclusively available in Great Britain as in the United States'.⁶⁷⁰ During a discussion on whether 'under Reagan the FDA sides with industry', a 1983 Subcommittee hearing investigating the safety and efficacy of over-the-counter drug use by the elderly, revealed that the average approval time for 'important new drugs' (which was defined as those offering breakthroughs in treatment) was down to about eleven months as opposed to an average of seventeen months in 1977. In the discussion, Accutane's quick approval time was used as an example to demonstrate 'that drugs that offer significant therapeutic advances have been on a fast-track approval system for some time, negating the industry's position that important drugs are being kept off the market'.⁶⁷¹ A spokesman for Roche responded that "it came as quite a surprise to everyone, including people at the FDA. Obviously, they felt it was an important new drug that was needed urgently."⁶⁷²

Whilst dangerous drugs like Accutane were being fast tracked through the approval process, the Reagan administration's dismantling of the drug information scheme proved similarly contentious. Known as a 'patient package insert' (PPIs), in 1980 the FDA proposed the creation of a new scheme which would require pharmacies to provide patients with 'easy-to-read leaflets

⁶⁶⁹ Dominique A. Tobbell, *Pills, Power, and Policy: The Struggle for Drug Reform in Cold War America and Its Consequences* (Berkeley: University of California Press, 2011), 118-119.

⁶⁷⁰ Ibid, 184-185. Aside from the number of drugs being made available markedly higher in Britain, Wardell showed that the drug lag in the US was most pronounced in failing to introduce new cardiovascular, gastrointestinal, respiratory, diuretic, and antibacterial therapies to the market. William M. Wardell, 'Introduction of New Therapeutic Drugs in the United States and Great Britain: An International Comparison', *Clin Pharmacol Ther* 14 (1973), 773-790.

⁶⁷¹ 'Hearing Before The Subcommittee On Health and Long- Term Care of the Select Committee on Aging House of Representatives, Ninety-Eighth Congress First Session' (21 July 1983), 21. Transcript available at https://archive.org/details/ERIC_ED245148/page/n25, Accessed 10 July 2019.

⁶⁷² 'FDA Quarterly Activities Reports', 3rd Quarter, (Rockville, Maryland: Food and Drug Administration, 1982), 16.

when they filled a first prescription for any of 10 best-selling drugs or classes of drugs'.⁶⁷³ Announcing the new policy in September 1980, the FDA declared that 'the "patient package inserts" will describe what the drug is for, what side effects may occur and how to take the drug properly to get the most benefit'.⁶⁷⁴ Although consumer advocate groups urged the FDA to make it mandatory for manufacturers to include a PPI with every prescribed drug, the initial three-year pilot programme only required the latter to include the insert with ten of the most widely used drugs in the country.⁶⁷⁵ As historian Elizabeth Siegel Watkins has noted, this action did seem 'to be a step in the right direction'.⁶⁷⁶ Unfortunately, such optimism was not to last. Whilst the FDA originally had a five-year plan demanding manufacturers' provided inserts for 375 drugs, resulting lobbying and protests from the pharmaceutical industry and 'pharmacists' industry groups' dissuaded the agency from implementing their initial plan. Amidst the Reagan administration's drive for deregulation, however, the PPI programme was quickly suspended. When Accutane came on the market neither Roche, doctors or pharmacists were required to provide patients with information about the drug's potential side effects. Knowing that Accutane was a teratogenic, however, Roche sent a PPI to physicians and pharmacies which warned them of the serious risk Accutane posed to fetuses. The company could not ensure that physicians and pharmacies would distribute the warnings, prompting *Washington Post* reporters Judith Al and William Hines to query whether the policy change 'may have contributed to the Accutane tragedy'.⁶⁷⁷ During their investigation, for example, the reporters cited Dr Lynne Silver, a paediatrician allied to consumer rights advocacy group, Public Citizen:

⁶⁷³ Judith R. Al and William Hines, 'How a Federal Policy May Have Contributed to the Accutane Tragedy', *Washington Post* (3 May 1988).

⁶⁷⁴ *Ibid.*

⁶⁷⁵ Anon, 'Reagan Freezes Drug Information Scheme', *New Scientist* (9 April 1981), 206.

⁶⁷⁶ Elizabeth Siegel Watkins, *The Estrogen Elixir: A History of Hormone Replacement Therapy in America* (Baltimore: Johns Hopkins University Press, 2010), 143. For more on the history of PPIs see: Elizabeth Siegel Watkins, 'Deciphering the prescription: Pharmacists and the patient package insert', in Jeremy A. Greene and Elizabeth Siegel Watkins (eds) *Prescribed: Writing, Filling, Using, and Abusing the Prescription in Modern America* (Baltimore: Johns Hopkins University Press, 2012).

⁶⁷⁷ Al and Hines, 'The Accutane Tragedy'.

we tested these voluntary measures by sending a 35-year-old woman with cystic acne to the drugstore a block from our office with an Accutane prescription. She never saw the pharmacist at all, was never asked any question other than ‘Would you like a generic?’ (even though no generic is available), received no PPI and . . . was given this bottle with no warning sticker.⁶⁷⁸

Amidst such concerns, some dermatologists started to question Roche’s marketing strategy. Californian dermatologist Edward B. Frankel, for instance, bemoaned the seven pages of Accutane adverts which appeared in the October 1988 issue of the *Archives of Dermatology Journal*. Given that Accutane was supposedly only to be prescribed for severe cases of cystic acne, Frankel claimed that ‘the total number of female patients with cystic acne who could benefit from Accutane treatment probably would not pay for the advertising, let alone show a profit to Hoffmann-La Roche Inc’.⁶⁷⁹ Moreover, Frankel suggested that Roche’s aggressive advertising of the drug was designed to reach teenagers suffering milder forms of acne and concluded his letter by asking if dermatologists were becoming ‘an unwitting part of a physician-drug company complex?’⁶⁸⁰

Dealing with Disaster: Regulating a Known Teratogen

On 26 April 1988, the Dermatologic Drugs Advisory Committee met to consider the ‘adverse effects of Accutane’ and whether it should remain on the market.⁶⁸¹ At the meeting, representatives from groups such as the American Academy of Paediatrics, the Teratology Society, the March of Dimes Birth Defects Foundation and the consumer rights advocacy

⁶⁷⁸ Ibid.

⁶⁷⁹ Edward B. Frankel, ‘Physician-Drug Company Complex’, *Arch Dermatol* 125 (1989), 567.

⁶⁸⁰ Ibid.

⁶⁸¹ Food and Drug Administration, ‘Center For Drug Evaluation and Research, Dermatologic Drugs Advisory Committee, Open Public Hearing NDA 18-662 Accutane (Isotretinoin) Capsules’ (26 April 1988), 15. Full transcript available <https://wayback.archive-it.org/7993/20170403222750/https://www.fda.gov/ohrms/dockets/ac/88/62t1a.pdf>, Accessed 11 August 2019.

group, Public Citizen, called for firmer restrictions. Whilst Public Citizen acknowledged that ‘the issue of an appropriate remedy for this problem is difficult’, they called on the FDA to introduce the following measures:

One, restrict its availability to board-certified or board eligible dermatologists who have executed an affidavit swearing that they will abide by the labelling restrictions on the drug. Two, require that informed consent forms be obtained from all female patients and, three, make patient package inserts for this drug mandatory.⁶⁸²

With Accutane at risk of being removed from the market, Roche and the AAD emphasised the remarkable clinical effects of the drug and its potential for improving the emotional, social and physical well-being of severe acne sufferers. Roche recruited dermatology professor’s Dr Alan Shalita and Dr John Strauss, both of whom outlined ‘the significant medical need for Accutane’ and ‘why it was an essential drug in dermatology’.⁶⁸³ Shalita, who described himself as ‘somebody who has devoted his professional life to the care of patients with acne’, used clinical photographs to illustrate the dramatic improvements experienced by patients treated with Accutane. In one example, Shalita presented the case of a young woman suffering from severe cystic acne who had been ‘unresponsive to all prior therapy’.⁶⁸⁴ An aspiring actress, she was unable to obtain employment ‘even as a waitress’ due to the disfiguring nature of her acne and, as a result, rarely left the house. After five months of treatment with Accutane, however, her skin ‘dramatically improved’ and, soon after, she gained a job touring with a major Broadway stage company.⁶⁸⁵ Like Shalita, Strauss, who described himself as a ‘recognised expert in acne research with over 30 years of experience in treating severe acne’, made an equally impassioned plea to keep Accutane on the market. During his presentation, Strauss warned that removing the drug would ‘set the therapy of acne back by 20 years’ and claimed that those suffering from

⁶⁸² Ibid, 140.

⁶⁸³ Ibid, 92.

⁶⁸⁴ Ibid.

⁶⁸⁵ Ibid, 93.

severe forms of treatment resistant acne would ‘not allow us to go back to 1977’.⁶⁸⁶ Moreover, he suggested that removing Accutane from the regulated drug market would lead to patients obtaining the drug on the black market and through other illegal means – a move which could seriously jeopardise their health. Perhaps understandably, the prospect of the FDA removing or imposing severe restrictions on Accutane greatly concerned the American dermatological community.⁶⁸⁷ During the meeting, for instance, President of the AAD, Tom Jansen, recalled the difficulties of treating severe acne before the availability of Accutane and made a ‘strong plea that this drug should be available to help our patients’:

Although treatments were available for this disease before Isotretinoin, the response to systematically administered antibiotics, sulfanomides, sulfones, anti-inflammatory agents, including corticosteroids, hormones and high doses of vitamin A were unpredictable, incomplete and temporary at best. Many of these drugs were given for months and years and had significant side effects.⁶⁸⁸

The Committee recommended several new protocols for ensuring pregnant females were not prescribed the drug. These included: restricting the number of doctors who could prescribe the drug; only prescribing the drug to those with severe disease; necessitating that women of childbearing age seek a second opinion before commencing treatment with the drug; and, finally, ensuring doctors wishing to distribute Accutane gained a special certificate permitting them to do so beforehand.⁶⁸⁹

⁶⁸⁶ Ibid, 98.

⁶⁸⁷ Writing in the correspondence pages of the *Journal of the American Academy of Dermatology*, for example, Neal S. Penneys, a dermatologist based at the University of Miami School of Medicine, appealed to the ‘silent majority of persons who have had satisfactory results from the use of Accutane’ to fight back against the ‘views of the fanatical few’. A member of the FDA’s Dermatology Advisory Committee, Penneys urged his colleagues to encourage their patients who had had a positive experience with the drug to share their thoughts on the issue with both the FDA Commissioner and the pharmaceutical manufacturer. Penneys also provided the FDA’s postal address to make it easier for patients to communicate their thoughts, and justified this by claiming ‘it is important that the FDA hear from patients who have used Accutane and who support the use of this medication in a safe and controlled manner’ in Neal S. Penneys, ‘Accutane’, *JAAD* 21 (1989), 811.

⁶⁸⁸ Ibid, 133.

⁶⁸⁹ Michael Abramowitz, ‘FDA Advised to Limit Accutane Prescriptions’, *Washington Post* (27 April 1988).

The resulting fallout gained significant attention from the media. In the aftermath of the meeting, for example, reporters clambered for the views of FDA Commissioner, Frank E. Young, who was responsible for deciding whether the FDA would agree to implement the advisory panel's recommendations.⁶⁹⁰ Young admitted that he was unsure whether the FDA had the power to implement the proposals put forward by the panel. For instance, once the FDA had declared a drug 'safe and effective' and approved it for sale, the agency was unable to ensure that doctors prescribing the drug followed the instructions outlined on the labelling. Moreover, Young informed reporters that the FDA's lawyers had raised concerns regarding their ability to 'legally restrict distribution of the drug without changing laws or regulations'.⁶⁹¹ The issue also attracted the interest of the *Wall Street Journal* which, according to historian Daniel Carpenter, 'has long positioned itself as a pro-business libertarian critic of the FDA'.⁶⁹² For example, on 9 May 1988, an editorial piece hailed the fortitude displayed by Roche and dermatologists in their efforts to stop the FDA from removing Accutane from the American market, labelling the FDA's decision to call a committee meeting 'a 'crude attack on a helpful therapy':

The controversy over Accutane, the acne drug, has had the look and sound of a familiar script, with the same cast of characters that has appeared in many past dramas over an accused drug. Federal drug officials blow the whistle on the drug's dangers, an outraged voice is heard from Capitol Hill, consumer advocates threaten lawsuits, and headlines appear in the press. The word 'thalidomide' is uttered. The script calls for doctors and drug companies to run for cover, and the drug and anything like it are banished from American's pharmacies, to the cheers of a grateful citizenry. But this time, the script fell apart. Medicine fought back.⁶⁹³

⁶⁹⁰ Ibid.

⁶⁹¹ Ibid.

⁶⁹² Carpenter, *Reputation and Power*, 28.

⁶⁹³ Anonymous, 'Medicine Fights Back', *Wall Street Journal* (9 May 1988), 1. The editorial piece proved controversial, provoking an immediate response from Edward J. Lammer of the California Birth Defects Monitoring Program. Lammer blasted the journal for erroneously trying to present the issue as 'an attempt by big government to deny beneficial medications to the public, dictate how physicians may practice medicine, and bully the pharmaceutical industry'. While the journal suggested the committee meeting was the 'moment medicine fought back', Lammer reminded the editors that representatives from the Centers for Disease Control, the American Academy of Paediatrics, the Teratology Society, the March of Dimes Birth Defects Foundation and the American College of Obstetrics and Gynecology had all provided statements to the panel urging the

Journalist Michael Waldholz proceeded to interview ‘several key members of FDA staff’.⁶⁹⁴ Although the members of staff Waldholz spoke to asked to remain anonymous, they revealed that the FDA was reluctant to remove Accutane from the market because of fears that curbing the use of the drug ‘could generate a lengthy legal battle with doctors, pharmacists and drug makers’.⁶⁹⁵ Moreover, one top FDA official, who asked to remain anonymous, was quoted as saying:

Short of revoking the drug’s approval, our authority to restrict who can prescribe the drug or how it is distributed is very uncertain. While some in the agency do think we have the authority, it’s generally accepted that using it will attract a legal battle.⁶⁹⁶

In his investigation, Waldholz discovered that the FDA had a history of failing to restrict and regulate the sale and use of dangerous drugs. In 1974, for instance, the FDA attempted to limit the use and sale of methadone to hospitals throughout America ‘following reports that the drug was being sold illicitly by doctors and pharmacies’.⁶⁹⁷ Angered by the move, the American Pharmaceutical Association (APhA) sued the FDA, with a Washington court finding in favour of the APhA. The judge stipulated ‘that the agency couldn’t dictate where a drug is sold or who can prescribe it’.⁶⁹⁸ Embarrassed and shocked by the ruling, the FDA decided against appealing the court’s decision. Moreover, former FDA ‘chief counsel’ Peter Hutt revealed that the decision unquestionably set a precedent and led to the FDA moving to ‘frequently negotiate

FDA to improve their regulation of the drug. In Lammer’s letter, he insisted that the Dermatologic Drugs Advisory Committee meeting was held not because the FDA were desperate to flex their regulatory powers, but because members of the medical establishment were genuinely concerned about the risks associated with having a poorly regulated teratogenic drug on the market. Edward J. Lammer, ‘Accutane and Public-Health Risk’, *Wall Street Journal* (16 June 1988), 1.

⁶⁹⁴ Michael Waldholz, ‘FDA Unlikely to Demand Restrictions on Accutane’, *Wall Street Journal* (13 May 1988).

⁶⁹⁵ Ibid.

⁶⁹⁶ Ibid.

⁶⁹⁷ Ibid.

⁶⁹⁸ Ibid.

terms with a company, so that the question of legal authority never arises'.⁶⁹⁹ Following a month of deliberations, Young sent a letter to Roche stipulating his recommendations for dealing with Accutane-related birth defects. Ignoring the Advisory Committee's advice to limit physicians' access to the drug, the FDA asked Roche to 'strengthen warnings that the drug causes birth defects'.⁷⁰⁰ While 'containing no provisions for restricting sales of Accutane' – which many critics of the drug pursued – Young asked Roche to place the following information on their labelling: 'Women must not become pregnant while taking Accutane. This drug causes severe birth defects in a very high percentage of infants born to women who take it, even for short periods'.⁷⁰¹

The FDA also advised Roche to double the size of the lettering on the boxed contraindications section of the drug labelling, as well as issue an 'avoid pregnancy symbol' and reemphasise the four patient 'musts' (Figure 53).

Accutane® (isotretinoin)
Capsules



3.1.2.3 Warnings on Package

A unique blister packaging that reemphasizes information to patients about avoiding pregnancy with the removal of every single pill, including use of the "avoid pregnancy" symbol:



Reemphasis of the four patient "musts" prominently displayed in large red and black print on the back panel of the blister package (and included in Patient Information Brochure).

1. **YOU MUST** HAVE A BLOOD TEST DONE BY YOUR DOCTOR WHICH SHOWS YOU ARE *NOT* PREGNANT BEFORE YOU START TAKING ACCUTANE.
2. **YOU MUST** WAIT UNTIL THE 2ND OR 3RD DAY OF YOUR PERIOD TO START TAKING ACCUTANE.
3. **YOU MUST** USE TWO FORMS OF EFFECTIVE BIRTH CONTROL ONE MONTH BEFORE, DURING AND ONE MONTH AFTER TAKING ACCUTANE.
4. **YOU MUST** SEND IN THE FORM INSIDE THE MEDICATION PACKAGE TO SIGN-UP FOR THE CONFIDENTIAL FOLLOW-UP SURVEY.

⁶⁹⁹ Ibid.

⁷⁰⁰ Anon, 'FDA Asks Accutane Maker For Firmer Drug Warnings', *Wall Street Journal* (27 May 1988).

⁷⁰¹ Ibid.

Figure 53 ‘avoid pregnancy symbol’.⁷⁰²

In addition to labelling changes, the FDA recommended that Roche provide patients with a glut of educational material including: a large folder with forms and brochures, a ten-minute film to be watched by both patients and physicians and a written consent form with ten true or false questions ‘intended to evaluate the patient’s comprehension of the risks of Accutane’.⁷⁰³ Agreeing to the FDA’s recommendations, Roche also proposed paying for any female patient undertaking a course of Accutane to have ‘contraceptive counselling’.⁷⁰⁴ This counselling was designed to forcefully reaffirm the need for women prescribed Accutane to refrain from becoming pregnant until one month after they had stopped taking the drug. In addition, Roche also initiated ‘the first risk management program introduced by a pharmaceutical company’, called the Pregnancy Prevention Program (Figure 54), with the intention of reducing cases of Accutane related birth defects.⁷⁰⁵

- PI modified to require a negative pregnancy test within one week before starting Accutane and to recommend monthly pregnancy testing and contraceptive counseling. Referrals and reimbursement for contraceptive counseling are provided by Roche.
- PI modified to require two forms of effective contraception simultaneously for 1 month before, during, and 1 month following Accutane therapy.
- Blister packaging that includes an avoid pregnancy symbol and text emphasizing the need to avoid taking Accutane if pregnant, the need to maintain a non-pregnant state for 1 month before, during, and 1 month following Accutane treatment by using two effective forms of contraception.
- Educational materials to help prescribers counsel patients about contraceptives and pregnancy avoidance (Section 3.3).
- Female patient informed consent.
- Methods to evaluate the effectiveness of the PPP at modifying prescriber and patient behaviors (Section 3.2.1.2).

⁷⁰² ‘Accutane Pregnancy Prevention Program – FDA’, Full details of the Pregnancy Prevention Program can be found here: https://www.accessdata.fda.gov/drugsatfda_docs/label/2001/18662s441b1.pdf, Accessed 10 August 2018, and Sheila R. Shulman, ‘The Broader Message of Accutane’, *Am J Public Health* 79 (1989), 1565.

⁷⁰³ Ibid.

⁷⁰⁴ Ibid.

⁷⁰⁵ For more on the Pregnancy Prevention Programme see: <https://www.slideshare.net/Prezi22/dermatologic-and-ophthalmic-drugs-advisory-committee-briefing>, Accessed 24 June 2018.

Figure 54 Pregnancy Prevention Program.⁷⁰⁶

In a further step to reduce the number of pregnant women exposed to Accutane, Roche enrolled the help of researchers at the Slone Epidemiology Unit who were based at the Boston University School of Public Health.⁷⁰⁷ Financed by Roche, researchers designed a survey in which women of reproductive age taking Accutane were asked to voluntarily take part and share their experiences with the drug. The objectives of the Accutane Survey were to determine both the ‘rate of pregnancy among women of childbearing age who use Accutane’ and to evaluate ‘physician and patient compliance with procedures designed to prevent pregnancy’.⁷⁰⁸ The information collected by the survey was used to determine ‘women’s understanding of the teratogenic risks of Accutane, their history of acne therapy, their pregnancy prevention practices, and the occurrence (and outcomes) of pregnancies during Accutane exposure’.⁷⁰⁹

During discussions about their flagship Pregnancy Prevention Programme (PPP), Roche claimed that reducing cases of Accutane-related teratogenicity could only be achieved with the full cooperation of both patients and physicians. At the 1989 meeting of the Dermatologic Drugs Advisory Committee, for example, Roche’s Director of Medical Affairs and Health, Dr William Cunningham, declared that: ‘Ensuring contraception is a very important physician/patient cooperation. It is a contract with the two. It’s a very intimate relationship, and this is certainly at the heart of the pregnancy prevention effort’.⁷¹⁰

⁷⁰⁶ Ibid.

⁷⁰⁷ ‘Survey of Accutane Use in Women’, <http://www.bu.edu/slone/research/studies/accutane/>, Accessed 18 May 2019.

⁷⁰⁸ Ibid.

⁷⁰⁹ Ibid.

⁷¹⁰ Transcripts from the Dermatologic Drugs Advisory Committee Meeting (May 8 1989), 55. <https://wayback.archive-it.org/7993/20170403222741/https://www.fda.gov/ohrms/dockets/ac/accutane/29t1.pdf>, Accessed 11 August 2019.

Critics, however, such as Sidney Wolfe from Public Citizen, dismissed the PPP as inadequate and claimed that the ‘responsibility for adverse outcomes from Accutane use has been shifted from Roche, the manufacturer and marketer to the prescriber and patient’.⁷¹¹ Others like Richard Miller, representing the Teratology Society, outlined three main obstacles to the prevention of Accutane-related birth defects. Firstly, most of the females being prescribed the drug were of reproductive age, aged between twelve and forty-four. Secondly, Miller felt there was a distinct lack of close monitoring for detecting early pregnancies within this cohort. Lastly, the most effective contraceptives routinely prescribed to women taking Accutane had a failure rate of around three per cent, meaning that, even if one of the key components of the PPP was adhered to, hundreds of females were still at risk of becoming pregnant whilst taking the drug.⁷¹²

Whilst hormonal contraception were regarded as ‘one of the cornerstones’ of the PPP, the introduction of routine pregnancy testing and mandatory contraception drew criticism from some physicians.⁷¹³ During the Joint 1990 meeting between the Dermatologic Drugs Advisory Committee and The Fertility and Maternal Health Drugs Advisory Committee, for example, ‘physician activist’ Dr Adriane Fugh-Berman termed the measures ‘absurd intrusions’ which were ‘offensive to women’.⁷¹⁴ Instead, she opined that the principles of informed consent meant

⁷¹¹ Ibid, 135.

⁷¹² Ibid, 31. Richard Miller’s fears concerning the possibility of contraceptives failing were well founded. Whilst Roche’s PPP implored doctors to ensure any female of reproductive age treated with Accutane used two forms of contraceptive, there were numerous reports of pregnancies still occurring in individuals who followed the guidelines. For example, pregnancies have been known to have occurred in women using contraceptive measures such as oral contraceptives, injectable and contraceptive implants. Michelle Meadows, ‘The Power of Accutane’, *FDA Consumer* 35 (March/April 2001), 18-23.

⁷¹³ Food and Drug Administration Centre for Drug Evaluation and Research, Meeting of the Dermatologic and Ophthalmic Drugs Advisory Committee Monday, September 18, 2000, 37. Transcripts available <https://wayback.archive-it.org/7993/20170403222540/https://www.fda.gov/ohrms/dockets/ac/00/transcripts/3639t1a.pdf>, Accessed 26 August 2019.

⁷¹⁴ Transcripts from the Dermatologic Drugs Advisory Committee and The Fertility And Maternal Health Drugs Advisory Committee, 21 May 1990, 10. Transcripts available <https://wayback.archive-it.org/7993/20170403222725/https://www.fda.gov/ohrms/dockets/ac/accutane/2034t1.pdf>, Accessed 26 August 2019.

that, while it was necessary for physicians to advise patients of the risks, it was not their responsibility to ‘police the patient’ or ‘enforce compliance’.⁷¹⁵ Moreover, Fugh-Berman accused the FDA of ‘supporting a dangerous trend’ which viewed ‘woman merely as a support system for a foetus, a pre-conceived foetus’⁷¹⁶:

Are we, as physicians, to view all women of reproductive age as incubators to be kept ready for occupancy at all times? What comes next? Most drugs for epilepsy are teratogenic. Are we going to deny these drugs to reproductive – age women? Perhaps eventually we will require monthly pregnancy tests for all women so that we can institutionalise them, force-feed them nutritious food and keep them away from drugs and alcohol. I am exaggerating but I am trying to point out that it is absurd to work from the supposition that we can view women as wombs first and patients second. What we object to is the recommendation that all women using this drug be subjected to monthly pregnancy tests or be forced to take hormonal contraception as the price of obtaining this drug.⁷¹⁷

While Fugh-Berman felt the main tenets of the PPP encroached on women’s autonomy and privacy, the Slone Accutane Survey found that between the years of 1989 and 1998, some 958 out of 500,000 women enrolled in the survey fell pregnant. Out of the 958, 834 resulted in terminations being either ‘elective, spontaneous or due to ectopic pregnancies’ with those surviving the birth being left with a range of congenital abnormalities.⁷¹⁸ Moreover, it was found that since the drug came on to the market, Roche recorded over two thousand known reports of what it termed ‘Accutane-exposed pregnancies’.⁷¹⁹ Of the two thousand, some seventy per cent of exposed pregnancies happened after the PPP was initiated in 1988. Despite the clear problems with the PPP, both the FDA and Roche were averse to labelling the program an outright failure. In a 2001 edition of *FDA Consumer*, for example, it was claimed that ‘according to FDA, exactly how well the PPP has worked is unclear’.⁷²⁰ Nevertheless, it was

⁷¹⁵ Ibid.

⁷¹⁶ Ibid, 12.

⁷¹⁷ Ibid.

⁷¹⁸ Meadows, ‘The Power of Accutane’, 18-23.

⁷¹⁹ Ibid.

⁷²⁰ Ibid.

stated that ‘experts say the PPP is a significant program that has prevented many pregnancies’, and a Roche spokesperson suggested that the pharmaceutical company deserved plaudits for the ‘extraordinary efforts made to educate patients that they must not become pregnant while taking Accutane’.⁷²¹ Although Roche insisted that the number of Accutane-exposed pregnancies had fallen as a result of the PPP, the Slone survey was believed to be representative of only thirty to forty per cent of female patients prescribed Accutane. Thus, it was impossible to accurately calculate how many babies had been exposed to the drug or account for any unreported Accutane-exposed pregnancies. One of the main criticisms of the PPP was that both Roche and the FDA were incapable of enforcing the program’s key prevention measures. It was found, for example, that thirty-six per cent of patients registered with the Slone survey ‘failed to receive a pregnancy test prior to starting therapy’ with fifteen per cent claiming that their physician or dermatologist did not inform them of the need to use birth control for a month before starting their course of therapy.⁷²²

In the wake of mounting evidence concerning the ineffectiveness of the PPP, the FDA conceded that the ‘voluntary and information based’ Risk Management Program was inadequate and needed refining.⁷²³ As a result, the FDA initiated the System to Manage Accutane Related Teratogenicity (SMART) in 2002. In what was a strengthening of the PPP, SMART required those prescribing Accutane to adhere to five main stipulations, outlined in Figure 55.

⁷²¹ Ibid.

⁷²² Lorien Abrams, Edward Maibach, Katherine Lyon-Daniel and Steven R. Feldman, ‘What Is the Best Approach to Reducing Birth Defects Associated with Isotretinoin?’, *PLoS Med* 3 (2006), 1978-1983.

⁷²³ Gideon Koren, Marina Avner and Neil Shear, ‘Generic Isotretinoin: A New Risk for Unborn Children’, *CMAJ* 170 (2004), 1567-1568.

Box 3: SMART requirements

The System to Manage Accutane Related Teratogenicity (SMART) enhances the Accutane Pregnancy Prevention Program with the following requirements:

- Two negative pregnancy test results before first prescription
- Pregnancy tests repeated monthly during therapy
- Accutane Qualification Sticker affixed to the prescription form to confirm the prescriber's authorization to prescribe isotretinoin and the patient's eligibility to receive it
- Maximum 30-day supply
- No automatic refills

Figure 55 'SMART'.⁷²⁴

Along with strict adherence to the SMART requirements, those prescribing Accutane were required to read and study the Roche-designed SMART 'Guide to Best Practices'. Once prescribers had signed and returned the document to Roche acknowledging their understating of Accutane's associated risks, Roche sent them yellow Accutane Qualification Stickers. Any patient wishing to receive a prescription of Accutane from their doctor or dermatologist had to undertake two pregnancy tests to prove that they were not pregnant.⁷²⁵ Once they had demonstrated that they were not pregnant, prescribers provided them with a Qualification Sticker which they showed to a pharmacist who then dispensed a thirty-day supply of the drug. With the intention of increasing patients' awareness of the teratogenic effects of Accutane, female patients prescribed the drug were also required to sign a patient information and consent form. Included within the form was fifteen separate points which they had to initial, acknowledging that they agreed to the main tenets of the SMART program.⁷²⁶ Contained within the consent form were stipulations which detailed the importance of avoiding sexual intercourse

⁷²⁴ Ibid.

⁷²⁵ Petrocelli, 'Accutane', 1-64.

⁷²⁶ Ibid.

whilst taking Accutane, reminders of the various forms of birth control available, and an instruction to read the Patient Product Information leaflet and watch a video about contraception.⁷²⁷ Although it remained to be seen whether SMART could reduce Accutane associated pregnancies, Roche was nevertheless concerned about the upcoming expiration of their patent in February 2002, not least because in 2001 Accutane sales had nearly hit \$500 million. Concerned that the market would be flooded with cheaper generic versions of the drug, Roche petitioned the FDA asking them to refrain from approving any generic forms of Accutane, arguing that rival manufacturers would not implement stringent safety protocols.⁷²⁸ Despite their protests, however, by 2003, three generic versions of Accutane had entered the American market in the form of Amnestein (November 2002), Sotret (December 2002) and Claravis (April 2003).⁷²⁹ With these significantly cheaper generic versions available, opponents of the drug believed there would be a rise in the use of Accutane amongst young women of childbearing age – a move that potentially endangered the lives of countless fetuses.

Generic versions of the drug notwithstanding, the FDA and Roche were confident that SMART was a robust risk management programme. Such optimism, however, was not shared by all physicians. In the first year of SMART, for example, there was a noticeable dip in recorded sales of Accutane as many doctors decided against prescribing the drug due to concerns over additional workload pressures, unrealistic expectations and increased responsibility that came with the programme. Many patients, however, overcame the impasse by being referred to dermatologists who, despite the increased regulatory burdens, were willing to prescribe the drug. In addition, other dermatologists who were originally hesitant to use SMART soon

⁷²⁷ For more information on the patient consent form and the SMART program see:

https://www.accessdata.fda.gov/drugsatfda_docs/label/2002/18662s0461bl.pdf, Accessed 7 February 2019.

⁷²⁸ Petrocelli, 'Accutane', 35. For more on the history of generic drugs see: Jeremy Greene, *Generic: The Unbranding of Modern Medicine* (Baltimore: Johns Hopkins University Press, 2016).

⁷²⁹ By 2004, over thirty generic versions of Accutane were available internationally. Koren, Avner and Shear, 'Generic Isotretinoin', 1567-1568.

realised that the programme shielded them from a ‘certain amount of patient argument’.⁷³⁰ Some mothers, for instance, were uncomfortable with their young daughters being tested for pregnancy and implored dermatologists to refrain from carrying out the procedure. Dermatologists, however, avoided this potentially awkward situation by pointing out that pregnancy testing was a mandatory stipulation of the programme.

Findings suggested, however, that the programme was failing to reduce the number of Accutane exposed pregnancies. In its final year, for example, statistics showed that there was no reduction in the amount of pregnancies recorded with the PPP and, with Accutane recording a twenty-three per cent drop in sales, this ultimately amounted to an increase. The reasons for the rise in increased pregnancies were twofold. Firstly, dermatologists and pharmacists were accused of ‘dropping the ball’ as only ninety per cent of prescriptions for the drug had received the yellow qualification stickers, and only thirty-four per cent of women at risk of falling pregnant received the required two pregnancy tests.⁷³¹ Secondly, it was clear that some patients were failing to adhere to the strict mandates of the programme and were being lax with both birth control measures and the need to avoid sexual intercourse whilst taking the drug. As Roche and the FDA continued to grapple with the problem of reducing Accutane exposed pregnancies, the drug was implicated in causing a host of other serious side effects.⁷³² Whilst it was accepted

⁷³⁰ Hilary Baldwin, ‘Coping with the Isotretinoin Registry’, *Dermatol Ther* 19 (2006), 241-150.

⁷³¹ *Ibid.*

⁷³² As SMART had failed to reduce the number of exposed pregnancies, in 2005 the FDA implemented a third risk management programme entitled iPLEDGE. Described as a “computer-based risk management program” it cost \$80 million dollars to put into place and introduced strict requirements for patients, doctors, pharmacists and drug manufacturers selling Accutane and its associated generic versions. As well as requiring male and female users of the drug to register, it was designed to track the distribution of the drug and mandated that only wholesalers registered with the program could receive Isotretinoin from drug manufacturers and sell it. Dermatologists and physicians wishing to prescribe the drug also had to register with iPLEDGE and accept responsibility for educating female patients of childbearing age about the risks associated with the drug. Before filling a prescription, those prescribing the drug were also required to input patient information directly into the online system. For their part, women of childbearing age were required to register with the programme. They provided details about their two contraceptive measures, signed a consent form intimating their knowledge concerning the risk of birth defects and signed an additional informed consent form containing ‘thirteen affirmative statements’. Before female patients received their monthly prescription, doctors and dermatologists were required to enter the results of their test results into the iPLEDGE system. Once the system authorised

that Accutane was a potent teratogenic, Roche denied that the drug was responsible for unwanted secondary effects such as inflammatory bowel disease (IBD), depression and, in some instances, suicide. With Accutane facing additional criticism, dermatologists and Roche continued to defend the drug.

‘No evidence to support a causal connection’: Denying Depression

Unlike the clear dangers Accutane posed to the developing foetus, establishing a definitive link between the drug and the other serious side effects was extremely difficult. Accutane’s link with IBD, for instance, caused great discord amongst dermatologists such as Stephen M. Schleicher and Michael B. Brodin. Schleicher sought to disapprove the theory by both discussing his own experiences of using Accutane and by citing a study from New York-based gastroenterologist, Burton Korelitz, who had published a report that showed no evidence of IBD amongst patients treated with the drug.⁷³³ Schleicher used the case study of a nineteen-year-old man, who suffered from both a severe case of cystic acne and ulcerative proctitis, to show that, having been on a 40mg per day course of Accutane for fourteen weeks, the patient experienced a complete clearing of his skin. More importantly, he did not experience a flare up of his ulcerative proctitis both during or after treatment, leading Schleicher to thus conclude that ‘the use of oral isotretinoin does not appear linked to the onset of ulcerative colitis or Crohn’s disease’.⁷³⁴ Responding to Schleicher’s letter, Brodin accused his fellow dermatologist

patients’ eligibility, prescribers were permitted to distribute the drug. Elizabeth Gettelman, ‘Accutane Users Pledge Abstinence, or Commit to Test After Test’, *Mother Jones* (September 2006). Given the strict, time consuming and intrusive nature of iPLEDGE, the program came under criticism from dermatologists and patients alike. In 2006, vice president of the American Society of Cosmetic Dermatology & Aesthetic Surgery, Dr Ranella Hirsch, claimed that iPLEDGE was ‘one of the worst things that’s happened to our specialty’. Other dermatologists claimed that the program was ‘overkill’ and warned that doctors would either have to increase the price of isotretinoin-based treatment to pay for the time consuming testing requirements or ‘avoid the trouble by turning to less effective treatments’. In addition, a survey conducted by the AAD found 90% of their members had experienced significant problems with the iPLEDGE system. Laurel Naversen Geraghty, ‘Doctors Fear Acne Drug Rules Go Too Far’, *New York Times* (12 January 2006).

⁷³³ B. I. Korelitz, ‘Systemic 13-cis-retinoic Acid Therapy and Exacerbation of Colitis’, *JAMA* 252 (1984), 2463.

⁷³⁴ Stephen M. Schleicher, ‘Oral Isotretinoin and Inflammatory Bowel Disease’, *JAAD* 13 (1985), 834-835.

of ‘minimising the problem of inflammatory bowel disease caused by isotretinoin’.⁷³⁵ Despite conceding that the ‘incidence of the association was undoubtedly small’, Brodin believed it nonetheless existed and was potentially a very serious problem. Brodin pointed to a twenty-six-year-old female patient of his who had begun to experience symptoms, such as cramping, severe abdominal pain and rectal bleeding, only nine days after starting a 60mg per day course of Accutane. Discontinuing the drug, Brodin described how his patient became ‘acutely ill’ six days after stopping Accutane, recording a fever of 38.3 °C. A Sigmoidoscopy, revealed that the woman was suffering from severe proctitis.⁷³⁶ Neither Brodin, the patient nor the gastroenterologist who performed the sigmoidoscopy were particularly ‘enthusiastic about rechallenge’.⁷³⁷ Responding to Brodin’s letter, Schleicher disclosed that he had contacted Ted Van Trabert, who was the project coordinator of Roche’s Clinical Safety Surveillance Unit. During their correspondence, Trabert had assured Schleicher that neither Roche nor the FDA could ‘demonstrate direct causality between onset or exacerbation of inflammatory bowel disease and administration of isotretinoin in any of the cases studied’.⁷³⁸ As a result, Accutane was not contraindicated in causing IBD – Roche merely advised doctors to proceed with caution when prescribing the drug to patients suffering from other medical complaints, including gastrointestinal disorders. In concluding his reply to Brodin, Schleicher declared that the potential for Accutane triggering or intensifying IBD was therefore ‘as yet unresolved’, although he advised his colleagues to promptly withdraw treatment should any patient develop symptoms indicating problems within the gastrointestinal tract.⁷³⁹

⁷³⁵ Michael B. Brodin, ‘Inflammatory Bowel Disease and Isotretinoin’, *JAAD* 14 (1986), 843.

⁷³⁶ A sigmoidoscopy, also called a flexible sigmoidoscopy, is a procedure which enables doctors to ‘look inside your sigmoid colon by using a flexible tube with a light on it’, allowing them to check for problems such as ulcers, abnormal cells, polyps and cancer. <https://www.healthline.com/health/sigmoidoscopy>, Accessed 9 July 2019.

⁷³⁷ *Ibid.*

⁷³⁸ Stephen M. Schleicher ‘Inflammatory Bowel Disease and Isotretinoin: A Reply’, *JAAD* 14 (1986), 843.

⁷³⁹ *Ibid.* In recent years, the causal link between Accutane and the development of gastrointestinal disorders following use of the drug is said to have been ‘debunked’ by several medical studies which insist that there is very little evidence available to prove a definite connection. While some patients remain adamant that Accutane caused their subsequent bowel problems (as many as 7000 personal injury lawsuits have been filled against

In a further blow to the drug's reputation, Accutane was implicated in cases of severe depression and suicide. In 1982, during one of the clinical trials testing the drug, two patients reported feeling depressed.⁷⁴⁰ In 1983, Roche received news of an attempted suicide in a patient taking the drug and, shortly thereafter, confirmed one suicide. In 1986, Roche received news of 'five or six positive rechallenges in patients who experienced depression during Accutane therapy'. A 'positive rechallenge', which refers to a patient experiencing a marked reaction when a drug is reintroduced, is considered a 'significant indicator of a causal link between a drug and the adverse event'.⁷⁴¹ In these patients, their depressive symptoms resolved once the drug was stopped but came back again when Accutane was reintroduced. Despite the increasing link between Accutane, depression and suicide in the late 1980s and early 1990s, some dermatologists minimised the role of Accutane in these cases, and instead offered alternative theories for this trend. In 1990, for example, Stefano Gatti and Ferdinando Serri – two dermatologists from the 2nd University of Rome and The Catholic University, Rome – presented the case study of a seventeen-year-old boy suffering from severe acne.⁷⁴² Following four months of treatment with Accutane, the boy's skin cleared up. Upon completing his treatment, however, he admitted to having difficulties readjusting to life. Despite now having a

Roche and other manufacturers of generic versions of Accutane relating to this very matter), gastroenterologists have poured scorn on the idea. In 2013, for example, Professors of Gastroenterology Brian G. Feagan and Reena Khanna of the University of Western Ontario in London, Canada, attributed the significant number of lawsuits against Roche to patients often becoming overly concerned 'about the development of a disease or complication after learning of a hypothetical risk factor in the media'. Moreover, they claimed that 'evidence of association' was difficult to substantiate due to the case studies being 'based exclusively on spontaneous reporting of adverse events by physicians, which is highly susceptible to bias'. Brian G. Feagan and Reena Khanna, 'Isotretinoin, Acne, and Crohn's Disease: A Convergence of Bad Skin, Bad Science, and Bad Litigation Creates the Perfect Storm', *Gastroenterol Hepatol* 9 (2013), 752-755. For more details on the problems associated with proving a definitive link between Accutane and IBD see: S. D. Crockett, A. Gulati, R. S. Sandler, M. D. Kappelman, 'A Causal Association Between Isotretinoin and Inflammatory Bowel Disease Has Yet to be Established', *Am J Gastroenterol* 104 (2009), 2387–2393.

⁷⁴⁰ 'Accutane – Is This Drug Treatment Linked to Depression and Suicide?' Hearing before the Committee on Government Reform House of Representatives, 106th Congress, Second Session, 5 December 2000. Transcript available from <https://archive.org/details/gov.gpo.fdsys.CHRG-106hrg73924/page/n5>, Accessed 5 May 2019.

⁷⁴¹ Ibid.

⁷⁴² S. Gatti and F. Serri, 'Acute Depression from Isotretinoin', *JAAD* 25 (1991), 132.

clear complexion, he was unemployed, unsettled in his home life and had a fractious relationship with his father. Although he received psychiatric care for his depression, the boy later committed suicide. Theorising why the boy took his own life, Gatti and Serri proposed that, in the past, it was possible he had used his cystic acne as a coping mechanism for explaining his dissatisfaction with life. Being cured, however, was enough to push the boy over the edge as his other ‘minor failings’ became suddenly magnified.⁷⁴³

Gatti and Serri’s correspondence received a warm reply from Gary Peck and his colleagues from the National Institute of Mental Health. Peck, one of the lead researchers on the 1979 paper which outlined Isotretinoin’s remarkable effects in treating severe cases of acne, agreed with Gatti and Serri’s conclusions and claimed that ‘some patients with severe acne may have unrealistically high expectations of what life will hold for them after the successful treatment of their acne’.⁷⁴⁴ Although Peck had cured many teenage patients’ acne, he noted that they were often left disappointed as a result of failing to obtain immediate improvements in ‘their academic, financial, or social lives’, something he believed could possibly explain some patients’ post-Accutane depression.⁷⁴⁵ Peck, along with fellow dermatologists David Rubinow, Kathleen Squillace and Gail Gantt, had also published a paper claiming that those treated with Accutane showed a marked improvement in their depression and anxiety ratings.⁷⁴⁶

More generally, there was mounting evidence that retinoids could bring on a range of mental illnesses. Etretinate, for instance, was implicated in causing ‘extreme’ and ‘deep’ depression in

⁷⁴³ Ibid.

⁷⁴⁴ Gary L. Peck, John J. Di Giovanna and David R. Rubinow, ‘Acute Depression from Isotretinoin: A Reply’, *JAAD* 25 (1991), 132.

⁷⁴⁵ Ibid.

⁷⁴⁶ Gary L. Peck, David R. Rubinow, Kathleen M. Squillace and Gail G. Gantt, ‘Reduced Anxiety and Depression in Cystic Acne Patients after Successful Treatment with Oral Isotretinoin’, *JAMA* 17 (1987), 26-31.

psoriasis sufferers treated with the drug.⁷⁴⁷ Although in 1985 Roche amended its package insert to include the warning that Accutane may cause ‘emotional instability including depression’, they failed to inform the FDA of the findings from a 1994 French study which found a definite link between the drug and depression.⁷⁴⁸ While French authorities required Roche to add the words ‘suicide attempt’ to Accutane’s list of potential side-effects, the FDA maintained that they had been unaware of the French study for some three years. It was only in 1998, following pressure from the FDA, that Roche agreed to include the following warning on the drug product label:

Psychiatric disorders. Accutane may cause depression, psychosis, and, rarely, suicidal ideation, suicide attempts, and suicide. Discontinuation of Accutane therapy may be insufficient; further evaluation may be necessary. No mechanism of action has been established for these events. In the post-marketing period, a number of patients treated with Accutane have reported depression, psychosis, and, rarely, suicide ideation, suicide attempts, and suicide. Of the patients reporting depression, some reported that the depression subsided with the discontinuation of therapy and recurred with reinstatement of therapy.⁷⁴⁹

Along with the warning, Roche sent a letter to prescribing physicians informing them that, while these psychiatric side effects were ‘uncommon’, they should be ‘attentive to any new behavioural signs and symptoms’.⁷⁵⁰ Roche assured physicians that strengthening the warnings was only a ‘precautionary measure’, but simultaneously suggested that ‘such problems could already be more common among the patient populations likely to be taking the drug’.⁷⁵¹ As cases of suicide and depression in those treated with the drug continued throughout the 1990s, the 2000 suicide of American teenager Bart Stupak JR (‘B.J.’ as he was known to friends and family) accelerated concerns. Son of a Democratic congressman, Bart Stupak, B.J. was found

⁷⁴⁷ C. A. Henderson and A. S. Highet, ‘Depression Induced by Etretnate’, *BMJ* 298 (1989), 964.

⁷⁴⁸ For more information on the history of Label Warnings for Roaccutane and Accutane please see the significant amount of literature compiled by the Ro/Accutane Action Group here: <http://www.accutaneaction.com/Label/index.html>, Accessed 21 May 2019.

⁷⁴⁹ Anonymous, ‘From the Food and Drug Administration’, *JAMA* 13 (1998), 984.

⁷⁵⁰ Ibid.

⁷⁵¹ Ibid.

dead following his prom-night after-party, having killed himself with his father's gun.⁷⁵² Attempting to explain why B.J. had killed himself, Stupak and his wife declared that 'the only thing we can find is Accutane'. Having been on the drug for five months before his death, Stupak took aim at the FDA and his son's family doctor. As well as accusing the FDA of inadequately 'spreading the word' about the serious side-effects associated with Accutane, Stupak also insisted that packaging accompanying B.J.'s prescription contained no warning about the possibility of suffering from depression while taking the drug. Furthermore, Stupak also accused his son's doctor of failing to inform both B.J., Stupak and his wife about Accutane's link with depression. A popular student and promising athlete, B.J.'s death profoundly shocked members of his family, friends and the community of Menominee, Michigan. His dad remarked that 'This is contrary to everything he lived for, everything he thought, everything he wanted in life ... completely out of character for him. He would not do something like this'.⁷⁵³

Though Stupak blamed Accutane for B.J.'s death, stories emerged concerning the boy's strange behaviour the night before he killed himself. Whilst reading the Bible aloud, B.J. informed his friends that, due to his failing grades, he was unable to enrol in college and claimed that 'his parents probably hated him for that'. Stupak responded on NBC's Today programme that "there was no reason for him to think such a thing."⁷⁵⁴ The Congressman used his political influence to set up a Congressional hearing which served to investigate Accutane's link with depression and suicidal ideation. In his correspondence sent to both the FDA and Roche, Stupak enrolled seven fellow members of Congress to sign his letters urging that Roche provide 'consent form for all users, uniform package warnings', and made a commitment to investing in increased

⁷⁵² John Flesher, 'Son's Death Blamed On Acne Drug', *Washington Post* (5 October 2000), 3.

⁷⁵³ Ibid.

⁷⁵⁴ Ibid.

research. Perhaps most importantly, Stupak's wish of a Congressional hearing was granted. On 5 December 2000, the Committee on Government Reform held a hearing entitled: 'Accutane - Is This Acne Drug Treatment Linked to Depression and Suicide?'

The meeting, which included victims, their families and representatives from the FDA and Roche, sought answers to the following four questions:

When did the issue of depression and suicide first arise regarding Accutane? What actions did Roche and the FDA take to determine if there was a causal link? When and how was the public notified? And, fourth, was the public notification adequate?⁷⁵⁵

One of the most impassioned speeches came from Mrs Lori Callais, a teacher from Denham Springs, Louisiana. Mrs Callais described how her popular and high achieving daughter, Amanda, was prescribed a short course of Accutane for her acne in September 1997. Although during the consultation Amanda was informed about Accutane's severe teratogenic effects and her father was made to sign a release form declaring that they understood the risks, neither the dermatologist nor the leaflet he provided informed them of Accutane's link with depression. Following two months of treatment, however, Amanda slipped into a deep depression and, in an attempted suicide, consumed forty Accutane tablets. Surviving the suicide attempt, the Callais family 'continued to follow the doctor's orders' and had Amanda admitted to an adolescent healthcare facility for treatment. Instead of stopping the Accutane, a psychiatrist working at the facility decided to keep Amanda on the drug and prescribed an anti-depressant to help ease her suicidal thoughts. After three months of treatment, however, Amanda continued to deteriorate. Describing the family's sense of 'hopelessness', Mrs Callais told of her immense relief after her friend informed her of a televised advert from the FDA which warned about

⁷⁵⁵ 'Accutane Hearing before the Committee on Government Reform' (5 December 2000). Transcript available at <https://archive.org/details/gov.gpo.fdsys.CHRG-106hrg73924/page/n5>, Accessed 23 May 2019.

Accutane's link with depression. After downloading a copy of the 1998 warning from the internet, Mrs Callais contacted both the psychiatrist and dermatologist involved in Amanda's treatment and told them of the link. Both attested to knowing 'nothing about the new warning' and Mrs Callais immediately threw Amanda's remaining tablets away. Within days, she had recovered.⁷⁵⁶ In her concluding remarks, Mrs. Callais took aim at both the FDA and Roche:

I know that Roche Pharmaceuticals would tell you that Accutane does not affect teens, that teenagers are depressed anyway, especially teens with acne. After 16 years of teaching teenagers every day, and I am an English teacher, I can tell you that, while teens' emotions are very volatile, very few are clinically depressed and even fewer are suicidal. Shame on Roche for not giving our children a fair chance and just casually dismissing their lives as a trivial matter. It is time to find out the truth about this drug. Therefore, I demand that the FDA take action. The FDA must require Roche to produce their worldwide data base of adverse psychiatric reactions to this drug. The FDA must hold Roche Pharmaceuticals accountable. Is the almighty dollar and corporate bottom line worth more than our children? We would never allow our children to play Russian Roulette with a gun, but we allow that to happen every time a prescription for Accutane is given. If you do not act and act promptly, you have just pulled the trigger. I just hope it is not your child, and I hope and pray that the chamber of that gun isn't loaded.⁷⁵⁷

Listening to proceedings was Dr Douglas G. Jacobs who was Associate Clinical Professor of Psychiatry at Harvard Medical School and a consultant of Roche. Asked by Roche to evaluate the possible link between Accutane, depression and the risk of suicide, Jacobs explained that he reviewed the neurobiological impact of Accutane, its influence on causing impulsiveness and whether it caused psychiatric illness. Firstly, in terms of the neurobiological impact Accutane had on the brain, the psychiatrist explained that 'we do not believe that isotretinoin, Accutane, affects the neurotransmitter system causing some alteration that would lead to a depressive illness'.⁷⁵⁸ Nor did he believe Accutane caused impulsive behaviour or, more importantly, an increase in the tendency to commit suicide. Though some patients and their

⁷⁵⁶ Ibid, 9.

⁷⁵⁷ Ibid, 10.

⁷⁵⁸ Ibid, 58.

families were adamant that Accutane had caused their depression, Jacobs argued that such feelings could be categorised as ‘just mood changes’ and thus did not satisfy the criteria for clinical depression. Therefore, based on his review of the Medwatch reports describing the onset of depression in the population treated with Accutane, Jacobs believed there was ‘no evidence of a biochemical basis for Accutane to be associated with depression, suicide, or suicide attempts’ and claimed that there were ‘multiple scenarios’ behind the deaths:

generally involving a psychiatric illness, family history of depression or suicide, family problems, concurrent medication, and other confounding factors. The average age and gender – young and male – of the victims were consistent with the typical profile. If a full psychological autopsy, which examines multiple factors, were to be performed, the cause of suicide in these patients would not be viewed as associated with isotretinoin, but rather to the myriad of other factors that indicated suicide risk.⁷⁵⁹

Following the congressional hearing, in 2001 Jacobs co-authored an article investigating Accutane’s link with depression and suicide with fellow psychiatrists Nancy Deutsch and Margaret Brewer. The article, which appeared in the *Journal of the American Academy of Dermatology*, examined the ‘existing literature and MedWatch reports concerning a proposed relationship between isotretinoin and depression and suicide’.⁷⁶⁰ Supported by an educational grant from Roche, the authors found ‘no evidence to support a causal connection between isotretinoin and major depression or suicide, because reported cases do not meet the established criteria for causality’.⁷⁶¹ Amid growing cases of Accutane related suicides, the article drew criticism from *Star Ledger* reporter Ed Silverman, who questioned the marketing practices employed by drug manufactures like Roche. Silverman, who criticised the ‘pharmaceutical industry and its ability to influence physicians’, also quoted the head of the Centre for Bioethics at the University of Pennsylvania, Arthur Caplan:

⁷⁵⁹ Ibid, 70.

⁷⁶⁰ Ibid.

⁷⁶¹ Douglas G. Jacobs, Nancy L. Deutsch and Margaret Brewer, “Suicide, Depression, and Isotretinoin: Is there a Causal Link?” *JAAD* 45 (2001), 168-175.

There's a growing body of literature showing the closer the financial tie to the funder of an article, the more favourable the findings. There's always room for interpretation, but when you have a relationship, you always tend to lean toward the positive.⁷⁶²

In addition, Silverman also interviewed Northern Illinois University Professor of Psychology and Director of the Research Division of the American Association of Suicidology, Peter Gutierrez, who was dubious about Roche's motives:

My concern is that doctors are going to miss the association between the author and the drug company. It's a perception issue. They know there are questions about the drug and they're worried about prescription rates. If I was a dermatologist and I was reading this article, I would say they're trying to cover their butts.⁷⁶³

Roche's attempts to reassure dermatologists over Accutane's link with depression and suicide came amidst sales of the drug topping \$500 million during the first nine months of 2001 alone.⁷⁶⁴ Moreover, a report from the FDA's Post-Marketing Drug Risk Assessment Office conducted a study which showed that, between 1992 and 2000, there had been a 250% 'increase in the number of dispensed prescriptions for isotretinoin in the United States', pointing to a dramatic increase in Accutane being used to treat mild and moderate cases of acne.⁷⁶⁵

In 2002, The House Energy and Commerce Committee held a meeting to investigate the 'heart-wrenching and very complicated issues relating to the safety of Accutane'.⁷⁶⁶ In attendance at the hearing was the President and Chief Executive Officer of Roche, George Abercrombie, who refuted claims that there was a link between Accutane and emotional disturbance. Instead,

⁷⁶² Ed Silverman, 'Acne Drug Article Under Fire', *Star Ledger* (21 January 2002).

⁷⁶³ Ibid.

⁷⁶⁴ Ibid.

⁷⁶⁵ Diane K. Wysowski, Joslyn Swann and Amariyls Vega, 'Use of Isotretinoin (Accutane) in the United States: Rapid Increase from 1992 through 2000', *JAAD* 46 (2002), 505-509.

⁷⁶⁶ 'Hearing Before The Subcommittee On Oversight and Investigations of the Committee On Energy And Commerce House of Representatives', 107th Congress, Second Sessions (11 December 2002), 1. Full transcript available from <https://babel.hathitrust.org/cgi/pt?id=mdp.39015061576818&view=1up&seq=9>, Accessed 5 September 2019.

Abercrombie argued that ‘such spontaneous adverse event reports cannot be considered in isolation from the public health facts about serious psychiatric problems in young people’ and referenced statistics from the Surgeon General’s 2001 National Strategy for Suicide Prevention which showed that suicide was the third leading cause of death in America amongst fifteen to twenty-four-year olds.⁷⁶⁷ In Abercrombie’s view, it was therefore ‘not surprising to find reports of depression, suicide attempts and suicide in the Accutane population’.⁷⁶⁸ Moreover, Abercrombie spoke of Roche’s ‘pride’ at discovering an incredibly effective drug which had both cured millions of patients suffering from notoriously treatment resistant and disfiguring forms of acne.⁷⁶⁹

Despite Roche’s continued denials regarding a causal link between Accutane, depression and suicide, the company faced heavy criticism from Irish forensic accountant Liam Grant whose son, Liam Eamonn, committed suicide shortly after taking the drug.⁷⁷⁰ Having taken Roche to court in 2004, Grant was offered a compensation package totalling 37,000 euros. After Grant refused their offer, Roche took the case to Ireland’s Supreme Court in an attempt to force him to accept their offer. After the court threw out Roche’s appeal, Grant personally funded several

⁷⁶⁷ Ibid, 105.

⁷⁶⁸ Ibid.

⁷⁶⁹ Ibid, 103. As well as the committee discussing the ongoing problems of birth defects and psychiatric side-effects caused by Accutane, it was also revealed that several other issues were hampering the FDA’s ability to control who gained access to the drug. Aside from Roche’s patent for the drug expiring in early 2002, allowing competing drug manufacturers to flood the market with generic versions of Accutane, concerns were raised regarding the ease with which people could purchase the drug on the internet or from one of the hundreds of Mexican pharmacies stationed on the US-Mexico border. Bart Stupak testified to the committee that both Roche and the FDA had provided an ‘inadequate, irresponsible, and unacceptable’ response to concerns about the drug: ‘Roche has continued to put profits before people. They have done everything possible to prevent the American people from learning of the psychiatric injuries and deaths associated with Accutane. Even today I’m sure Roche will deny any causal effect of Accutane with the abortions, the deaths, and the suicides caused by their product. Mr. Chairman, this committee has spent a lot of time trying to deal with the explosion of the sale of dangerous drugs over the internet, and the FDA claims to be powerless to do anything about it. We find Accutane is being offered on the internet at approximately forty Web sites. We don’t find thalidomide being offered on the internet. How will a pregnancy prevention program and the psychiatric warnings that the FDA relies on to prevent these birth defects and deaths be enforced on internet sales? If the FDA cannot or will not regulate Accutane and these other drugs, then it is imperative for the U.S Congress to act to protect the American public. The bottom line remains the safety of our citizens.’ Ibid, 14.

⁷⁷⁰ For more information concerning the death of Liam Eamonn see: Flesher, ‘Son’s Death’, 3.

studies which investigated exactly how Accutane affected the human brain. In one study, Professor of Psychiatry Douglas Bremner and colleagues from the Department of Psychiatry and Behavioural Sciences at Emory University recruited twenty-eight volunteers suffering from treatment resistant acne who were being treated by their outpatient physicians with either Isotretinoin or a standard four-month course of antibiotics such as doxycycline, minocycline, tetracycline and erythromycin.⁷⁷¹ Although the side effects of Isotretinoin such as ‘severe skin dryness’ made it impossible to ‘blind the subjects or the raters to treatment condition’, each participant underwent a positron emission tomography (PET) brain scan at baseline, and again following four months of treatment with either isotretinoin or antibiotics. In the thirteen patients treated with Accutane, the authors found that there was a marked ‘decrease in brain functioning in the orbitofrontal cortex, a brain region implicated in depression’.⁷⁷² Moreover, five patients treated with the drug complained of suffering from debilitating headaches. In these patients, it was found that there was a marked increase in levels of irritability and clear changes in their moods as measured by the patients themselves, their family members and the staff involved in the study. None of the significant changes recorded within the Accutane group were documented in those being treated with the different range of antibiotics.⁷⁷³ While Grant funded

⁷⁷¹ Grant also financed a study which looked at how Accutane affected the brains of mice. As reported on *USA Today*, the study found that ‘the active component of Accutane reduced cell creation in the brains of mice that had received clinical doses and that outcome appeared to impair the mice’s ability to learn a maze task’, a finding which left the authors of the study to question whether the drug could have similar effects on a human adult’s brain. Julien Behal, *USA Today* (January 2005). For more information on the study please see: James Crandall, Yasuo Sakai, Jinghua Zhang, Omanand Koul, Yann Mineur, Wim E. Crusio and Peter McCaffery, ‘13-cis-retinoic acid suppresses hippocampal cell division and hippocampal-dependent learning in mice’, *PNAS* 101 (2004), 5111-5116. Following a decade of fighting Roche, Liam Grant eventually lost his case. Although his claim was unsuccessful, those close to the case commended Grant for his actions which were said to have ‘spearheaded a shift to transparency’. For example, Grant appealed to the European Medicines Agency – responsible for approving and monitoring drugs in the EU – to release all documentation relating to any adverse effects they had received relating to Accutane. Although the Agency initially refused on the grounds that they ‘needed to protect commercial interests’, they eventually complied with the ombudsman’s recommendations and released the relevant documents. Ann Cahill, ‘Father’s Actions “Spearheaded Shift to Transparency”’, *Irish Examiner* (28 May 2013).

⁷⁷² J. Douglas Bremner et al, ‘Functional Brain Imaging Alterations in Acne Patients Treated with Isotretinoin’, *Am J Psychiatry* 162 (2005), 983–991.

⁷⁷³ *Ibid.* In the aftermath of the study finding that Accutane could affect the human brain, *Star Ledger* reporter, Ed Silverman, once again scrutinised the results and interviewed Bremner who stated that: ‘The drug can cause symptoms of depression in a small percentage of people, so there should be screening for psychiatric disorders before going on the medication’. Also included within Silverman’s article was a quotation from Roche

eighty per cent of the study, it was disclosed that lawyers acting for those involved in litigation cases against Roche had put forward the other twenty per cent of the funds.⁷⁷⁴ In another study, scientists discovered that the drug decreased levels of serotonin in the brain, with low levels of the chemical linked with causing an increase in aggressive behaviour and several depressive disorders:

Serotonin is an important chemical that relays signals from nerve cells to other cells in the body. In the brain it is thought to play an important role in the regulation of a range of behaviours, such as aggression, anger and sleep. Low levels of serotonin have been linked to depression, as well as bipolar and anxiety disorders. Many medications aimed at treating depression seek to increase levels of serotonin to help overcome these problems. Our findings suggest that Roaccutane might disrupt the way serotonin is produced and made available to the cells. This could result in problems associated with low levels of serotonin, which might include depression. We are currently looking into this mechanism in more detail.⁷⁷⁵

Despite years of defending the drug from numerous critics, Roche decided to pull the drug from the American market in 2009. At the time, the pharmaceutical company had 5000 pending cases of litigation against them from patients apparently damaged by the drug's toxic side effects. In a statement, Roche claimed they were unable to compete with the generic versions of Accutane and bemoaned the fact that their sales of the drug made up only five per cent of the overall market. Moreover, having already paid more than \$33million dollars in damages to patients who went on to develop inflammatory bowel disorders after taking the drug, they admitted that the company had 'been faced with high costs from personal-injury lawsuits that the company continues to defend vigorously'.⁷⁷⁶

spokeswoman, Shelley Rosenstock, who questioned both the study's methodology and insisted 'that no scientific evidence links Accutane to suicide'. Ed Silverman, 'Study Finds Acne Drug Can Affect Brain', *Star Ledger* 28 May 2005.

⁷⁷⁴ Ibid.

⁷⁷⁵ University of Bath Press Release, 'Research Suggests Mechanism for Acne Drug's Link to Depression' (12 November 2007), <http://www.bath.ac.uk/news/2007/11/12/roaccutanenserotonin.html>, Accessed 5 June 2019; Sarah J Bailey, Simon Trent and Michelle Lane, '13-cis-Retinoic Acid Alters Intracellular Serotonin, Increases 5-HT1A Receptor, and Serotonin Reuptake Transporter Levels In Vitro', *Exp Biol Med* 232 (2007), 1195-1203.

⁷⁷⁶ In the Bloomberg article, it was revealed that Accutane had been pulled from the market in eleven other countries including 'France, Denmark, Austria, Germany, Portugal, Norway and Spain'. The UK failed to

Conclusion

In 1982, Accutane was launched to great fanfare. Many in the media declared Accutane a ‘super drug’ and a ‘perfect cure’ for acne. Such favourable coverage increased demand, with 120,000 women of childbearing age using Accutane within its first sixteen months on the market. As Accutane increased in popularity it was soon, however, found to be a potent teratogenic responsible for causing serious birth defects, miscarriages and neurocognitive impairment.

The FDA came under fire from opponents of the drug such as Public Citizen who demanded it be immediately removed from the market. Attention turned to Accutane’s approval time. When Ronald Reagan became president, he promised to reform the FDA and streamline the drug review process with the intention of quickening the approval of new drugs. Fast tracked through the drug approval process, Accutane was approved in only eleven months – a move which surprised representatives from both the FDA and Roche. The Reagan administration’s dismantling of the drug information scheme proved similarly contentious. Amidst Reagan’s deregulatory drive, lobbying and protests from the pharmaceutical industry and ‘pharmacists’ industry groups’ dissuaded the agency from implementing their initial plan which would have seen manufacturers providing PPIs for 375 drugs. Despite being under no obligation to include a PPI with Accutane, Roche sent a PPI to physicians and pharmacies which warned them of the serious risk Accutane posed to fetuses. The company could not, however, ensure that physicians and pharmacies would distribute the warnings, and reporters from the *Washington Post* queried whether the policy change resulted in an increasing number of women of childbearing age being exposed to the drug.

follow the aforementioned countries’ lead with the drug continuing to be available within the country. Anonymous, ‘Roche Pulls Accutane Off Market After Jury Verdicts’, *Bloomberg* (June 2009).

The biggest challenge which the FDA faced was how to effectively regulate Accutane. Groups such as the American Academy of Paediatrics, the Teratology Society, the March of Dimes Birth Defects Foundation and the consumer rights advocacy group, Public Citizen, urged the agency to place firmer restrictions on Accutane. Though some like Public Citizen called on the FDA to remove Accutane from the market, the agency resisted due to concerns that such a move would generate a lengthy and costly legal battle. Following the 1988 meeting of the Dermatologic Drugs Advisory Committee, the FDA worked with Roche to introduce the Pregnancy Prevention Program with the intention of reducing cases of Accutane related birth defects. The first risk management program introduced by a pharmaceutical company, PPP introduced a range of measure such as labelling changes, written consent forms for those prescribed the drug and a requirement that females taking Accutane be on two forms of effective contraception and that they agree to monthly pregnancy tests.

Despite being a flagship program, some physicians argued that PPP was ‘inadequate’ on account of it shifting responsibility for adverse outcomes from Roche and manufacturers to prescribers and patients. In addition, experts in teratogenic drugs warned that there was a distinct lack of close monitoring for detecting early pregnancies within females of reproductive age and believed that thousands of patients were at risk of falling pregnant whilst taking the drug. Others claimed that the PPP was ‘offensive to women’ and encroached on women’s autonomy and privacy. As criticism of the PPP grew, it was found that women, who had been enrolled on the program, fell pregnant and had given birth to babies with a range of serious congenital abnormalities. In the wake of mounting evidence concerning the ineffectiveness of the PPP, the FDA conceded that the ‘voluntary and information based’ Risk Management

Program was inadequate and needed refining.⁷⁷⁷ As a result, the FDA initiated the System to Manage Accutane Related Teratogenicity (SMART) in 2002 which imposed strengthened measures on women prescribed Accutane. Unfortunately, though, like PPP, SMART failed to reduce Accutane associated pregnancies. Dermatologists, physicians and patients, for example, were accused of ‘dropping the ball’ and failed to adhere to the strict mandates of the programme. Moreover, patients were condemned for being lax with both birth control measures and the need to avoid sexual intercourse whilst taking the drug.⁷⁷⁸

The drug was also implicated in causing a host of other serious side effects such as serious bowel disorders, depression and suicide. A series of Congressional hearings served to investigate Accutane’s link with depression and suicidal ideation and, despite victims being adamant that Accutane had caused their depression, Roche argued that no evidence of a causal connection between Accutane and depression or suicide existed. Instead, Roche were defended by psychiatrists like Dr Douglas G. Jacobs who argued that Accutane was not responsible for causing serious mental health issues as, in 2001, suicide was the third leading cause of death amongst fifteen to twenty-four-year olds in the United States. Regardless of medical professionals’ views concerning the dangers associated with Accutane, it was patients who suffered from the drug’s toxic effects. Using a range of oral history interviews, the following chapter therefore examines why acne sufferers sought prescriptions of the drug, what suffering from acne was like and how they dealt with Accutane’s serious side effects.

⁷⁷⁷ Abroms et al, ‘Reducing Birth Defects’, 1978-1983.

⁷⁷⁸ Baldwin, ‘Coping with the Isotretinoin Registry’, 241-150.

Chapter 7

In Their Own Words: Taking Accutane

As a teenager, Emma Simpson developed a severe case of cystic acne.⁷⁷⁹ She failed to find relief for the condition despite trying numerous anti-acne therapeutics. Simpson was eventually referred to a dermatologist who presented her with an unenviable choice: continue to endure the physically and psychologically debilitating effects of cystic acne or take a controversial, yet highly effective treatment. During her four-month course of Accutane, Simpson encountered a variety of side effects, including dry skin, eye problems and severe depression. With hindsight, Simpson declared that vulnerable teenagers were effectively being taken in by promises of clear skin without fully knowing the risks beforehand:

There is just no way it's worth it. I think the whole problem, or a big part of the problem is I would imagine quite a percentage of the people who start it are teenagers. And I do think that they have a slightly distorted idea about what's important. And kids can be cruel. You have pressures to fit in and you're extra self-conscious and you've got all those hormones flying about. I do think that they're in quite a vulnerable circumstance. So, if you dangle something in front of them that is going to fix their skin... You know, teenagers aren't really going to listen to the consequences – I can vouch for that – until you experience them and you're completely depressed and you no longer care what your skin looks like, because it's just...It's so out of proportion. It is so out of proportion to me, the side-effects.⁷⁸⁰

Using oral history, this chapter examines the stories of those who took Accutane, exploring why they decided to take the drug and how they coped with overcoming the drug's numerous side-effects. It also investigates how female patients felt when adhering to the strict strategies employed by dermatologists who sought to minimise their chances of becoming pregnant whilst taking Accutane. Investigating the drug's link to a range of mental disorders, the chapter

⁷⁷⁹ In order to protect the identity of participants all names have been anonymised.

⁷⁸⁰ Emma Simpson, Skype Interview with Iain Ferguson, 18 February 2018.

also explores how patient experiences can inform ongoing debates not only about Accutane, but also other controversies pertaining to the costs and benefits of certain drugs.

The primary source material for this chapter is fourteen oral history interviews, including twelve with patients who were prescribed Accutane. It also includes one interview with a mother of a patient who took the drug and one interview with a beauty therapist who regularly treated acne sufferers with a range of alternative therapies during the eighties and nineties. Of the fourteen people interviewed, twelve were females and two were males. Eleven of the interviewees were British, hailing mostly from Scotland and England.⁷⁸¹ Furthermore, three Americans were interviewed, including one woman who identified as Turkish-American. In order to gauge how understandings about Accutane changed throughout the years, I deliberately chose a cohort of interviewees who were prescribed the drug at different periods, including the 1980s, 1990s and 2000s, respectively.

Once described by historian Eric Hobsbawn as being ‘a remarkably slippery medium for preserving facts’, oral history has become a key methodological tool for helping medical historians better understand the experiences of patients.⁷⁸² According to Paul Thompson, the use of oral history allows medical historians to ‘delve into the hidden world of the institution, the clinic or the hospital, revealing the daily experiences of routines and treatments as told by the subjects, clients or patients at the receiving end of services’.⁷⁸³ Although oral history can be a beneficial method for helping medical historians better understand patient experience,

⁷⁸¹ Although the drug is known as Roaccutane in Britain, in order to maintain consistency and avoid confusion, the drug is referred to as ‘Accutane’ in this chapter. Whereas British interviewees referred to the drug as ‘Roaccutane’ in their testimonies, the three American interviewees referred to the drug using the American brand name, ‘Accutane’.

⁷⁸² Eric Hobsbawn, *On History* (London: Weidenfeld and Nicholson, 1997), 210.

⁷⁸³ Paul Thompson, ‘Introduction’ in Joanna Bornat, Robert Perks, Paul Thompson and Jan Walmsley (eds), *Oral History, Health and Welfare* (London: Routledge, 1999), 4.

there are challenges associated with conducting and interpreting interviews. For example, oral historians' reliance on human memory presents several challenges for the researcher. As Lynn Abrams has indicated, oral historians do not dispute the so called 'fallibility' of an interview subject's memory.⁷⁸⁴ Whilst critics have argued that memory is 'notoriously unreliable', scholars such as Alessandro Portelli have welcomed the discrepancies between facts and memories.⁷⁸⁵ Like Portelli, Abrams argues that 'memory is about the relationship between material facts and personal subjectivity', and it is thus that interplay between what we remember, how we remember and why we remember that is of such interest to oral historians'.⁷⁸⁶ Oral historians have attempted to resolve these tensions by arguing that good oral history is not about having a perfect memory and being able to recall minute details about the past. Rather, it is about detailing what was important to the narrator at the time. The awkward silences during the interview, the reluctance to answer certain questions, or the inability (either consciously or subconsciously) to recall certain events provides the historian with vital information. The oral historian can, therefore, offer an explanation for the narrator's evasiveness. As Abrams concludes, 'the important point here is that memory is not just a source; it is a narrator's interpretation of their experience and as such it is complex, creative and fluid'.⁷⁸⁷

Abrams has also urged oral historians to acknowledge that 'there are two people involved in an interview, which means two worlds, or subjectivities, are colliding'.⁷⁸⁸ This, according to Abrams, 'means that individual memory stories are shaped (not determined) by the

⁷⁸⁴ Lynn Abrams, *Oral History Theory* (London: Routledge, 2010), 81.

⁷⁸⁵ Alessandro Portelli, 'What Makes Oral History Different?', in Luisa Del Giudice, *Oral History, Oral Culture, and Italian Americans* (New York: Palgrave Macmillan, 2011), 23-30.

⁷⁸⁶ Abrams, *Oral History Theory*, 81.

⁷⁸⁷ *Ibid*, 105.

⁷⁸⁸ *Ibid*, 10.

intersubjective relationships present in the interview'.⁷⁸⁹ According to Arthur McIvor, testimonies, then, are ultimately 'shaped both by the interviewers' subjectivities (such as gender and class) and in a dialogue with the interviewee.⁷⁹⁰ Moreover, McIvor suggests that there is a process of adaptation here as:

Narrators gauge their immediate audience (the interviewer) and imagine their perceived audience (the end users and readers of the archived final product). In recalling their past in an interview context, narrators are filtering and sieving memories, constructing and composing their stories, and mixing factual evidence with their own interpretations as they try to make sense of their lives in an active, dialogic, and reflective process of remembering.⁷⁹¹

Whilst the methodology employed in the oral histories of Accutane patients attempts to understand how interviewees conceptualised their experiences of suffering from acne and being prescribed the drug, it is important to bear in mind the challenges associated with using oral history as a research method. The accuracy and reliability of testimonies from those who had been prescribed the drug in the early 1980s and 1990s, for instance, required careful consideration. Whilst some were able to remember a great deal of information about their experience with the drug, others attested to being unable to remember particular events and struggled to provide specific details. Nonetheless, each interview did provide important information concerning how patients came to be prescribed Accutane, their expectations upon taking it and how they dealt with the drug's side effects. When each interview was viewed alongside other testimonies of those prescribed the drug, interesting themes emerged such as the high levels of psychological trauma acne sufferers faced, their clear desperation to find an effective therapeutic and the significant impact taking Accutane had on patients and their families.

⁷⁸⁹ Ibid, 59.

⁷⁹⁰ Arthur McIvor, 'Economic Violence, Occupational Disability and Death: Oral Narratives of the Impact of Asbestos-Related Disease in Britain' in Steven High (ed.) *Beyond Testimony and Trauma: Oral History in the Aftermath of Mass Violence* (Vancouver: University of British Columbia Press, 2015), 257-284.

⁷⁹¹ Ibid, 10.

Further issues emerged concerning the appropriate way to interpret data from interviewees who had suffered significant trauma. As Abrams has pointed out, ‘traumatic experiences are remembered differently from the everyday’.⁷⁹² In some instances, those who have suffered a particularly traumatic event may be able to recall the affair with ‘great vividness and accuracy’; whereas others may struggle to provide a ‘coherent narrative’.⁷⁹³ For those interviewees unable or unwilling to recall certain events, I understood that the former may be subconsciously repressing difficult or painful memories as a protective or survival mechanism. Although some of the interviewees in this study struggled to remember and articulate memories from what was clearly a difficult period in their lives, others provided seemingly matter-of-fact answers when recalling certain traumatic events. Again, such detachment must be viewed as another coping mechanism that helped distance the interviewee from the incident. According to Steven High, when interviewing those who have experienced trauma:

meaning can be found in the form and structure of the recorded narratives, and in the silences therein, as well as in what is actually said. We can therefore learn a great deal from reading oral accounts for the symbols and logic embedded in them rather than simply as a source of historical information.⁷⁹⁴

Given the significant media interest in the Accutane story, it was important to be wary of the influence negative stories had on interviewees’ views of the drug.⁷⁹⁵ This provided an opportunity to discuss another important theoretical issue in oral history: the cultural circuit. As Alison Chand explains, the cultural circuit refers to the ways in which ‘private memories

⁷⁹² Abrams, *Oral History Theory*, 93.

⁷⁹³ *Ibid.*, 94.

⁷⁹⁴ Steven High, ‘Introduction’ in *Beyond Testimony and Trauma: Oral History In The Aftermath of Mass Violence* (Vancouver: UBC Press, 2015), 17.

⁷⁹⁵ Most interviewees attested to either hearing about negative media stories concerning Accutane or actively looking for articles which painted the drug in a bad light.

can be influenced by “public” accounts and shaped by cultural sources such as media reports, books and films’.⁷⁹⁶

In contrast, patients who attested to having had a positive experience with Accutane tended to overstate the almost miraculous benefits of the drug. For example, interviewees Bill Martin and Heather Johnson claimed that the drug transformed their lives by opening up new opportunities and helping them interact better ‘with people and the world at large’.⁷⁹⁷ While Johnson claimed not to have suffered any deleterious effects from the drug, her interview was interpreted slightly differently from the others due to other extenuating circumstances. Whilst taking her course of Accutane, Johnson fell seriously ill as a result of being exposed to toxic mould that was growing within her school walls. Although the side effects could have been either caused by the mould or Accutane, Johnson was averse to blaming the drug, which she attested to ‘loving’ on account of it clearing her acne.⁷⁹⁸

Other issues concerned how representative the interview sample was. Clearly, a sample of fourteen people cannot sufficiently represent the overall experience of hundreds of thousands of patients who had suffered from acne and taken the drug. Nevertheless, despite the relatively small interview sample, each interviewee revealed valuable information relating to issues such as what it was like to suffer from acne in the late twentieth century, the complexities associated with regulating a dangerous drug and the nature and evolution of the doctor-patient relationship. In order to reach as many diverse interview subjects as possible, participants were recruited using a variety of means, including posting advertisements on university message boards throughout the West of Scotland, using online acne support forums and by gaining

⁷⁹⁶ Alison Chand, *Masculinities on Clydeside: Men in Reserved Occupations During the Second World War* (Edinburgh: Edinburgh University Press, 2016), 22.

⁷⁹⁷ Bill Martin, Email Interview with Iain Ferguson, 21 February 2016.

⁷⁹⁸ Heather Johnson, Skype Interview with Iain Ferguson, 29 October 2017.

referrals from participants and/or family and friends (snowballing). While a larger group of interviewees may have reinforced and strengthened the reliability of the testimonies, it is debatable whether it would have provided alternative findings and trends to those which were apparent in the smaller cluster.

The chapter opens by exploring the impact suffering from acne had on patients' physical and mental well-being. It reveals the stigma and prejudice experienced by acne patients and illustrates the difficulties sufferers faced when trying to find a suitable treatment, obtain employment or meet a romantic partner. Next, it examines the nature of patients' interactions with physicians and dermatologists. While most acne sufferers were understandably worried about the health of their skin, some believed that their doctors lacked empathy, were poor communicators and, in some cases, were dismissive of their concerns. Other doctors, however, were described as being highly sympathetic. British patients attested to being continuously frustrated with what they perceived to be unwelcome NHS bureaucracy, which essentially dictated which drugs and treatments doctors were able to prescribe. The chapter concludes by discussing how patients dealt with both the side-effects of Accutane and the stringent tests used by dermatologists to monitor them. Investigating the stories of patients who experienced significant side-effects from taking the drug, the chapter questions whether the drug should still be available to patients in either brand name medication (Roaccutane in Britain) or generic versions available in countries throughout the world.

‘As soon as you got up in the morning, your whole life would be about how bad your face was’

The Lived Experience of Acne

In order to appreciate how patients came to be prescribed Accutane, it is important to understand what suffering from acne meant for sufferers and their families. Each patient had

their own reasons for taking the drug. In some interviews, for example, the tone of responses fizzed with anger, regret and resentment due to suffering from such a physically and psychologically crippling condition during their formative years. Others painted a picture of emotional and social isolation. Catherine Riessman has argued that it is important oral historians employ narrative analysis in order to consider how and why stories are framed in the way they are. Historians using oral history should view interviews as a ‘performative act’ with ‘analysis shifting from “the told” – the event to which language refers – to “the telling”, specifically the narrator’s strategic choices in illness narrative about positioning of characters, audience, and self, and to the listener/reader’s response’.⁷⁹⁹ Moreover, Riessman has urged oral historians to consider ‘why was the tale told that way? In what kind of a story did the narrator place himself? How did he or she strategically make identity claims through his narrative performance?’⁸⁰⁰ During interviews, ‘a particular self is constituted through these narratives, occasioned by the presence of a listener and their questions and comments. Typically, the moral character of the protagonist is sustained’.⁸⁰¹ In one example, Riessman recalled her interview with a person named ‘Burt’. Despite having advanced multiple sclerosis, being wheelchair bound, unemployed, divorced and estranged from his adult children, Burt projected a definition of himself as a ‘husband, father and worker’.⁸⁰² As Riessman demonstrated, ‘by effectively narrating his experience, in the context of cultural understandings about sickness, he was able to project a strong masculine identity, even in the face of behaviour that violated common sense definitions of masculinity’.⁸⁰³ At the beginning of the interview, Burt presented an image of someone who was socially isolated, lonely and struggling financially. Towards the end of the

⁷⁹⁹ Catherine Kohler Reissman ‘Illness Narratives: Positioned Identities’, Invited Annual Lecture, Health Communication Research Centre, Cardiff University, Wales (May 2002), 8. Lecture available here: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.513.4732&rep=rep1&type=pdf>, Accessed 10 January 2020.

⁸⁰⁰ Ibid.

⁸⁰¹ Catherine Kohler Reissman, ‘Strategic Uses of Narrative in the Presentation of Self and Illness’ in Clive Seale (ed.), *Social Research Methods: A Reader* (London: Routledge, 2003), 371.

⁸⁰² Ibid.

⁸⁰³ Ibid.

interview, however, Riessman argued that Burt ‘performed his preferred self responsible worker – not other “selves” he had suggested earlier (e.g lonely man wanting a woman to love)’.⁸⁰⁴ In addition, by using ‘particular narrative devices’, Burt retained a positive sense of self in the interview.⁸⁰⁵ For example, having informed Riessman that he was a ‘devoted husband’, Burt associated the breakdown of his marriage not with his MS, but with his ex-wife’s alcoholism – a strategy which presented Burt in a positive light. Moreover, Burt frequently expressed his desire to go back to work and ultimately positioned Riessman, his audience, ‘as witness to a moral tale depicting a man who wants to be a workingman’.⁸⁰⁶ Burt, therefore, sustained ‘a reality, and a preferred identity, displayed inside the narrative performance’.⁸⁰⁷

Lynne Abrams has also suggested that:

narrators in oral history interviews are likely to create an amalgamation of narrative styles drawing on all sorts of narrative forms which suit the story they are telling and the meaning they wish to impart. Commonly an interviewee will shift from the storytelling genre to anecdote to use of reported speech; they may tell their story as an epic of tragedy. They may also position themselves in the story as hero or victim.⁸⁰⁸

In some of the interviews conducted with acne sufferers, narrators positioned themselves as being victims and the central character in a tragedy. Others described similar tales of woe yet produced more ‘stoic’ narratives by indicating that they refused to allow acne to consume their lives. Glaswegian Racheal Wilson, for example, detailed the devastating effect severe acne had on both her and her family’s lives. Having suffered from infantile acne since the age of three, Wilson attested to the condition ‘definitely affecting the way people treated her’.⁸⁰⁹ The

⁸⁰⁴ Reissman, ‘Illness Narratives: Positioned Identities’ Lecture (May 2002), 20.

⁸⁰⁵ Abrams, *Oral History Theory*, 118.

⁸⁰⁶ Reissman, ‘Illness Narratives: Positioned Identities’ Lecture (May 2002), 19.

⁸⁰⁷ *Ibid*, 20.

⁸⁰⁸ Abrams, *Oral History Theory*, 108.

⁸⁰⁹ Racheal Wilson, In-Person Interview with Iain Ferguson, 25 September 2016.

severity of her acne marked her out as different from her primary school peers, as ‘everyone around her was obviously not having those problems’.⁸¹⁰ When her acne became more severe, Racheal coped by isolating herself and having very limited interactions with her schoolmates. Frequently teased about her acne, she believed that the skin condition illuminated other perceived failings that marked her out as being ‘different in a lot of ways’:

I was taller than everyone else, and I didn’t act the way that everyone else acted. I spoke differently. I... You know, my parents didn’t pick me up from school every day. Even that became a source of people picking on me. My parents both worked full-time, so it was my granny who would pick me up, but people would make fun of me for that. At the time, I didn’t notice it because there were so many other things that people decided to tease me for, but as time progressed – even in primary school – those things started to fade away and the skin became the main thing.⁸¹¹

Throughout the interview, Wilson vividly conjured up an image of a socially isolated and mentally tormented young child. In several instances, she used dramatic anecdotes to convey her sense of desperation. On one occasion, Wilson described how she destroyed the ‘vast majority of pictures of herself’ which had been taken between the ages of ten and sixteen – when her acne was most prevalent. Wilson explained that, during this period, ‘acne covered her whole body. I had it on my face, my back, the crooks of my arms. I wouldn’t leave the house’. On another occasion Wilson described her father sitting her down and explaining that he felt ‘responsible’ for her having such poor skin since, as a teenager, he too had suffered from severe acne.

During the interview she appeared to conjure up the same raw emotions that she had felt earlier in life, evidencing that the scars of acne, both mentally and physically (Wilson had scars on both her back and face), never completely dissipate. On several occasions, Wilson appeared

⁸¹⁰ Ibid.

⁸¹¹ Ibid.

frustrated and visibly shaken, particularly when she recalled her experience of having to move school due to being relentlessly bullied about her acne. Her non-verbal behaviour also suggested that she was both anxious and uncomfortable when recalling traumatic events; she struggled to maintain eye contact, stared at the ground and rushed her answers. On several occasions, she appeared teary and regularly crossed her arms whilst answering. Katie Holmes has argued that ‘while a verbal recollection of emotions will provide some insight into the nature of the emotion experienced, nonverbal indicators – such as an interviewee’s posture, hand movements, eye contact, the rhythm of speech and tone of voice, and the presence or absence of tears – can all provide equally telling clues’.⁸¹²

Another important issue to consider is the ‘dynamic interaction of subjectivities’ and its bearing on answers.⁸¹³ Penny Summerfield has suggested that ‘narratives are subjective and composed for specific audiences in quite particular ways’.⁸¹⁴ Before my interview with Wilson, she queried why I was researching acne. Having informed her that I used to suffer from severe acne myself, had taken Accutane and experienced significant side-effects, it was possible that Wilson’s answers were shaped according to what she believed I wanted to hear. In other words, ‘widespread acceptance that the sex, age’ - and in this case the interviewer’s background - can have a ‘major impact on the testimony from a respondent’.⁸¹⁵ Nevertheless, Abrams has urged historians to embrace the issues surrounding subjectivity and intersubjectivity as ‘it has become part of a bigger agenda, that of liberating voices and validating experiences and understanding how people construct retrospective versions of their lives’.⁸¹⁶

⁸¹² Katie Holmes, ‘Does It Matter If She Cried? Recording Emotion and the Australian Generations Oral History Project’, *Oral Hist Rev* 44 (2017), 68.

⁸¹³ Abrams, *Oral History Theory*, 58.

⁸¹⁴ Penny Summerfield, *Histories of the Self: Personal Narratives and Historical Practice* (London: Routledge, 2018), 104.

⁸¹⁵ Abrams, *Oral History Theory*, 24.

⁸¹⁶ *Ibid*, 63.

Other interviewees, such as Maryanne Flannery, depicted similarly tragic tales yet produced more ‘stoic’ narratives. Flannery, who grew up and attended a ‘tough’ secondary school in Govan during the early seventies, recalled truanting from school due to her ‘pus filled’ and ‘very painful’ spots which left her feeling ‘distraught’.⁸¹⁷ A gifted student, Flannery recalled missing school because of bullying by a group of older girls who frequently called her ‘pizza face’, ‘moon face’ and ‘crater face’. Whilst pretending to be sick, her misery was compounded by the fact that she lived across from her school and could see her classmates waving at her, beckoning her to join them in class:

They’d be waving to me and I’d wave back. They’d be thinking I was sick and all the time I’m sitting looking in the mirror and the pus is coming out of my skin.⁸¹⁸

Despite suffering from ‘extreme depression’ and feeling like she was in ‘a constant battle’, Flannery refrained from informing her parents about her ongoing struggles and, instead, employed coping mechanisms such as avoiding mirrors and lights which would emphasise her poor complexion and facial scars:

You would watch yourself in mirrors. There were certain mirrors that you looked ok in. And other mirrors you looked dreadful. And as soon as you went to the mirrors you looked dreadful. Then you would go to pieces.⁸¹⁹

Whilst Flannery enjoyed attending nightclubs with her friends, she recalled ‘running off the dancefloor and grabbing her coat’ when the lights went on at the end of the night and described a feeling of dread over fellow clubbers seeing her skin and being repulsed:

Under a red light any scarring that you had was so visible. It was dreadful. And I do remember going in there and I remember this guy, who I’d never met in my life, walked passed me and went ‘Oh, my god, you’ve got serious problems, moon face.’ And I could have just died.

⁸¹⁷ Maryanne Flannery, In-Person Interview with Iain Ferguson, 18 May 2018.

⁸¹⁸ Ibid.

⁸¹⁹ Ibid.

Erm, because I thought I looked lovely that night. Yes, hair was lovely. Outfit lovely. Under certain lights I probably didn't look good but that always sticks in my mind. I always remember that.⁸²⁰

Whereas Wilson presented herself as a victim, Flannery presented both a 'stoic' and 'heroic' narrative. Flannery recalled several instances where her acne caused her extreme anxiety and depression, but she frequently referred to herself as 'a fighter' and provided anecdotes where she stood up to people who made negative comments about her skin. Unlike Wilson, whose family were very much aware of the threat acne posed to her physical and mental well-being, Flannery disclosed that she did not always confide in her parents. Whilst truanting from school, for example, Flannery revealed that her father and mother were unaware 'because they would be away to work'.⁸²¹ Towards the end of the interview, Flannery revealed that, despite acne leaving her with quite pronounced facial scars, she was married, had two adult children and enjoyed a successful career in the dental profession. Having presented herself as resilient and defiant, Flannery also performed her preferred sense of self as wife, mother and worker.

Although bullying was a recurring theme throughout the interviews, others had very different reasons for wishing to achieve a clear complexion. Speech and language therapist Mary Sheenan, for example, suspected that suffering from severe acne during the 1980s affected her ability to attract a long-term boyfriend. Despite having been in several relationships when she was at both school and university, Sheenan admitted that, although 'most people get dumped quite a bit when they're young', she 'couldn't say nobody ever said, you know, it's your acne that's putting me off'.⁸²²

⁸²⁰ Ibid.

⁸²¹ Ibid.

⁸²² Mary Sheenan, In-Person Interview with Iain Ferguson, 15 November 2016.

Some interviewees also believed that their inflamed skin made both finding and progressing within a chosen career problematic. Sheenan believed that acne prohibited her from carrying out her job to the best of her ability as it ‘was quite off putting’ to patients and colleagues alike. Upon starting her Speech and Language Therapy Course, for example, Sheenan recalled her frequent training sessions which required other students having to touch and look closely at her face:

I had started the Speech and Language Therapy Course. So, I was working one to one with people or in groups and it was all looking at me and looking closely at my face as I was maybe modelling and saying things or whatever. And I was quite aware then of, you know... .. my acne and how that would seem. So that probably affected my confidence.⁸²³

Scotstoun born historian, Lucy Hughes, similarly recalled wondering what others thought about her appearance and feeling ‘like crap’ upon entering the world of work:

I mean, I remember that when I got my first proper job I worked in this office when I was about 16, 17 for a year and I just felt like... you know everyone’s sort of suited and booted and I’m like covered in acne. I just felt like so unprofessional or something. I didn’t look like I... I mean it didn’t bother me so much then but when I started looking for jobs after uni I felt I looked like a spotty teenager.⁸²⁴

Unlike other medical problems which warranted an immediate visit to the doctor, most interviewees initially preferred to treat their acne using alternative and over the counter therapies. Although some home remedies brought short term relief, others proved counterproductive and worsened patients’ skin. Aleka Yalman, for example, recalled her mother advising her to improve her levels of cleanliness by using specialised soaps and even household bleach:

when I was 10 or 11 I started getting acne and at that point, my mum just was, like, ‘Okay, here, have some, like, Dial soap’, the orange block soap. ‘Use that. That’ll work.’ And that didn’t work and then she was,

⁸²³ Ibid.

⁸²⁴ Lucy Hughes, In-Person Interview with Iain Ferguson, 2 March 2018.

like, ‘Okay, put Dettol on your face.’ Dettol solution and so I was, like, ‘Okay.’ I did that. That didn’t really work either.⁸²⁵

Others, such as Nicola Woods, similarly took the ill-advised decision to try and treat her acne by using toothpaste in order to try and ‘burn her spots off’. Claiming that both her and her family ‘didn’t really think of acne as being a medical problem’, Nicola refrained from initially consulting a doctor, preferring to try and treat her outbreaks with a common household product:

Good old toothpaste... (laughs) You look shocked, but yeah, I got it into my head that I could somehow burn my spots off using the toothpaste. And it did burn my face, but I looked ridiculous going to school. I just irritated my skin and made a bad situation worse.⁸²⁶

Not every home remedy employed was as extreme as this, however. Some interviewees adjusted their diet in the hope that restricting certain foodstuffs would lead to an improvement. Nevertheless, Lucy Hughes ‘remembered being really annoyed’ when people with ‘good skin’ urged her to “just don’t eat chocolate”. A vegetarian since the age of ten, Hughes was continuously frustrated by people presuming her acne was somehow indicative of a poor diet: ‘But yeah, like that used to annoy me because I thought my diet is all salad and vegetables... and I’m not eating chocolate’.⁸²⁷

Most interviewees recalled feeling frustrated by the ignorance displayed by those who implied that poor personal hygiene and/or inadequate diets were to blame for their acne. Some also felt that the media and pharmaceutical industry exploited such beliefs. Reflecting on the marketing strategies used by the manufacturers of over the counter anti-acne therapies such as Clearasil, for example, Mary Shennan claimed that it was not until she took part in a psychology student’s research project that she considered how the adverts ‘make people feel’:

⁸²⁵ Aleka Yalman, Skype Interview with Iain Ferguson, 11 January 2018.

⁸²⁶ Nicola Woods, In-Person Interview with Iain Ferguson, 21 November 2015.

⁸²⁷ Lucy Hughes, Interview.

It was probably in my early twenties and it was a psychology student who was looking into the whole marketing around acne products... and how they make people feel and that sort of thing and that was really interesting because it made me really reflect especially being a girl and reading magazines and whatever. It was very much that, you know, all the Clearasil and all this kind of stuff. It was marketed as if you just buy this thing and make enough effort... you'll be cured. You'll be fixed and it's your own fault therefore if it doesn't.⁸²⁸

Although Shennan declared that over the counter creams and lotions were 'nothing but a marketing scam', some sufferers who had the means to do so recalled trying expensive treatments. Victoria McLaughlin described her mum as not 'being very keen' on her using 'things like Clearasil' during her teenage years and preferred her to 'have gone for something just more simple or natural'. While McLaughlin's mother recommended she try the expensive skin care products available from the brand Dermalogica, McLaughlin also sought help from homeopaths based at the Woodlands Herbs Health Store in Glasgow.⁸²⁹ During visits to the 'Complementary Medicine Clinic' McLaughlin remembered the 'strange' array of tonics and herbal pastes that were recommended to her by their skin experts:

They would give me some sort of strange tonic which tasted disgusting, and then there was sort of herbal paste that you could put on. I don't really think that made any difference either and it was just really expensive, so I stopped doing that.⁸³⁰

Beauty therapist, Lauren Boyle, also remembered offering a range of 'very expensive treatments' to 'people who couldn't afford to go to fancy salons'. Adopting a holistic approach,

⁸²⁸ Mary Shennan, Interview.

⁸²⁹ Detailing their history on the Dermalogica website, the brand owners describe themselves – and their skin care products – as ushering in 'the force of change in the skin care industry'. British trained esthetician Jane Wurwand launched her product range in 1986 with her vision being to create a 'product line free of common irritants and ingredients that could cause breakouts (including lanolin, SD alcohol, mineral oil, artificial colours and fragrances) that would improve skin health, and were only available from qualified skin care professionals trained at The International Dermal Institute'. 'History of Dermalogica', https://www.dermalogica.co.uk/our-story/our-story.en_GB.pg.html. Accessed 9 November 2019.

⁸³⁰ Victoria McLaughlin, Skype Interview with Iain Ferguson, 12 January 2018. On their website Woodland Herbs offers a range of natural treatments such as 'vitamins, minerals, herbs, homeopathic remedies, facial care, skin care, herbal teas'. Furthermore, they also offer over twenty alternative therapies from 'massage to medical herbalism, bowen technique to acupuncture' <https://www.woodlandherbs.co.uk/> Accessed 10 November 2019.

Boyle recalled using an iontophoresis facial which involved using a galvanic hand piece to push a galvanic current of ions into the skin of acne sufferers:

That would be a treatment that would use creams... polarised creams that would force... so the person would hold a wee rod and then you would polarise it so that it would be positive or negative and you would make it positive so that it would then push creams into the skin then you would reverse the polarity and then you would pull the creams back out. And what it would do it would go quite deep into the skin and then it would pull the stuff... any sebum, blackheads, anything at all that was left in the skin that would pull that out. I have used that treatment on quite a few people who'd asked me, and it was very successful.⁸³¹

Boyle also described how her ability to listen to patients was more important than any treatment as listening could tell 'you really what people were suffering from'. Boyle claimed that many acne patients would be 'really, really depressed' and feel 'disenfranchised'. In order to make such patients feel more empowered and take better care of their skin, Boyle tried to educate people about the benefits of adopting a holistic approach to their health. She recalled talking to local community groups within libraries throughout Glasgow and across Scotland. During these presentations, Boyle reminded people about the importance of drinking water and urged against acne sufferers touching their faces due to the problems associated with cross-contamination:

I would take people along with me and I would say; now to get your skin looking the way that you want it to look you have to drink this amount of water every day. You know you have to make sure that you do not let cross contamination infect anything that you are using, so your fingers never ever go into a jar. You know so there is lots of basic things, but the drinking the water I was always amazed at how people would go 'you're meant to drink what, that amount of water a day? I could never drink that amount of water a day.' If you actually speak to any acne sufferer, one of the things that they do is that they touch their

⁸³¹ Lauren Boyle, In-Person Interview with Iain Ferguson, 12 January 2016. On the Melanin Aesthetics and Laser Clinic's website, a galvanic iontophoresis facial is described as the 'therapeutic introduction of ions of soluble salts into tissues by means of electric current; a form of electro-osmosis. It is a process of increasing the penetration of drugs into surface tissues by the application of electric current. Galvanic facial treatments offer a solution for making those skincare products work. The machine promotes the absorption of products used on the skin, driving them deeper into the pores so that they can work. It also helps to tighten up the skin, helping to reduce the appearance of fine lines, wrinkles and acne scars for good'. 'What is A Galvanic Facial Treatment', <https://www.melaninlaserclinic.com/galvanic-facial-treatment.html>, Accessed 10 October 2018.

acne and that is the worst thing that you can do is actually touch it because your hands are never clean. So, if you are then... if it is pustules or if it's boils or if it's just like a general break out on the skin and you are constantly touching that then you're bringing bacteria up and you may then cross infect everything.⁸³²

Boyle emphasised that acne could not be cured by expensive treatments alone but would require patients to reflect on their own health and lifestyle in order to alleviate the condition. Although many sufferers used a range of alternative therapies and sought out medical advice about the steps they could take to improve the health of their skin, the responses often added to their frustration. Many endured years of being prescribed pharmaceutical treatments which failed to ameliorate their acne. While some therapies, such as antibiotics, offered sufferers short-term relief, the deleterious side-effects often associated with such drugs ensured that medical treatments were not seen as effective long-term solutions. In most cases, it was only after all treatment options were exhausted that doctors referred sufferers to a dermatologist. It was during these encounters that patients were first introduced to the possibility of curing their acne with the 'wonder drug', Accutane.

'They just wrote me another prescription'

Accessing Medical Help

Reflecting on her frequent trips to her doctor's practice, Inverkip-born Kirsten Harkness described her initial interactions with physicians as 'frustrating' affairs. Suffering from 'major' acne from the age of ten, Harkness recalled her mother, at first, desperately trying to reassure her by saying that 'it was good that I was getting spots around that age because then hopefully they would be cleared up by the time I was a teenager'.⁸³³ As her acne relentlessly progressed into her teenage years, Harkness remembered feeling pressurised by her family to 'go to the

⁸³² Ibid.

⁸³³ Kirsten Harkness, Email Interview with Iain Ferguson, 23 May 2017.

doctors to see if something could be changed'. On her first visit to the doctor, Harkness recalled originally seeing a 'male GP' who she felt 'really didn't take me seriously' and 'just started prescribing me stuff'. Deeply unsatisfied with her level of medical care, Harkness subsequently consulted three different general practitioners as she felt that she 'wasn't getting the help that I needed'. As with her initial consultation, however, these encounters similarly proved to be deeply unsatisfying:

My first GP, who was a male, I feel really didn't take me seriously. I don't remember him asking me anything about acne or how it affected me. He just started prescribing me stuff. I tried about 3 GPs, purely because I felt I wasn't getting the help I needed, or that they were really dismissive when I said a treatment wasn't working. It was like they couldn't be bothered trying to find something that would work.⁸³⁴

Although Harkness' initial medical encounters failed to offer any effective or long term solutions, she eventually found support in the form of a female trainee GP. Recalling the young GP to be 'absolutely lovely', Harkness described feeling as though she 'was the only one that was properly concerned with how I felt over my acne'. Harkness described how the young GP wrote down a 'massive list' of available treatments, 'basically going through it all to see what helped'. It was only when the GP had exhausted all potential treatment options available to her, that she began to discuss the option of Accutane.

Although Harkness did eventually find an empathetic GP, the NHS's strict Acne Prescribing Guidelines for Clinical Management in Primary Care dictated what drugs she was able to prescribe. For many British patients with severe forms of acne being treated on the NHS, the requirement to try what seemed like a litany of inadequate treatments added to their despair. Alistair Thompson, for example, remembered 'trying everything' from 'dietary restrictions to

⁸³⁴ Ibid.

actual medication’ and found that none were effective. Thompson recalled continuously asking his GP to be prescribed Accutane after failing to find an effective treatment:

For about 4 years I attended my doctor’s surgery. The doctors I saw were accepting of every concern I had, but annoyingly kept denying me Accutane, even though we literally tried everything else. It was like arguing with a brick wall; it took about 2 years after it was first mentioned for me to be referred to a dermatologist.⁸³⁵

Even effective drugs were not always long-term solutions. Mary Shennan remembered being taken off the oral antibiotic erythromycin as soon as it began to work because her GP was concerned about the long-term side effects of continuous antibiotics therapy:

I took erythromycin for quite a long time. And that did help but it was one of these things that every time it had reached a point where it had started helping you, they would take you off it because they didn’t want you on it. Right erm...and so it was backwards and forwards with that you know. And it was frustrating at the time thinking well, you know, I’ve just found something that works. And I’m beginning to see the..., you know, like how my life could be better, kind of thing.⁸³⁶

These oral antibiotics used to treat acne caused side-effects. In Shennan’s case, it was only during a trip to the dentist years after stopping erythromycin that she was shocked to learn of the damage the drug had done to her teeth:

At one time, when I was about 21, I got my wisdom teeth removed. And the guy taking out my teeth said to me, ‘Oh, so you’ve been on antibiotics for years?’ I just said.... [laughs]. ‘How do you know that then?’ And er... he said ‘erm... because the roots of your teeth are all brown.’ He says, ‘we can tell that you’ve been on them.’ And I’m thinking, like, that’s gone into my bones and into the roots of my teeth...and my jaw.⁸³⁷

Many acne sufferers eventually sought a referral to a dermatologist. Alistair Thompson’s first impression of his dermatologist was that she was ‘very pleasant, efficient and understanding’. After a short examination of his acne, she immediately prescribed him Accutane. Aged

⁸³⁵ Alistair Thompson, Email Interview with Iain Ferguson, 19 October 2017.

⁸³⁶ Mary Shennan, Interview.

⁸³⁷ Ibid.

seventeen – and having severe cystic acne on both his face and back – Thompson attested to feeling ‘desperate to try anything that would work’.⁸³⁸ Given the severity of his acne, it was explained to Thompson that he was at real risk of suffering permanent scarring to both his back and face. Although the dermatologist had immediately offered Thompson Accutane, he claimed that he never felt any pressure from her to try the drug. Moreover, Thompson declared that he ‘felt he was pushing for it more than she was advising it’.⁸³⁹

Other interviewees felt under real pressure to accept their dermatologist’s recommendations. Maryanne Flannery, for instance, remembered an episode when her daughter’s dermatologist became visibly angry as a result of her asking for more information on the drug:

We went off to the dermatologist and he didn’t discuss anything with us. He just said, ‘Yes we’re putting her on to Roaccutane.’ And I said, ‘Can I stop you there? I believe there are a few trials? You know, they’re looking into a lot of issues with this.’ And he got quite angry. And that’s the only word I can use. And he stood up and said ‘I’ve got to see someone else right now... Here you go’ and threw... well not threw it at me... but he thrust a leaflet into my hand and said, ‘Read the leaflet.’ And I thought, I can’t believe this. And he went out.⁸⁴⁰

Although Flannery approached Accutane with caution, other parents actively encouraged their children to take the drug after seeing how effective it was. Heather Johnson from Orlando, Florida, for example, recalled her parents taking her to see a dermatologist who was achieving ‘really good things’ by treating severe acne sufferers with Accutane during the early 2000s. Being a talented Irish Dancer, Johnson described her acne as covering the majority of her face and being ‘like a mask’ in her school yearbook pictures. Although her parents paid for regular appointments with the paediatrician for a year, she remembered them being encouraged to seek

⁸³⁸ Alistair Thompson, Interview.

⁸³⁹ Ibid

⁸⁴⁰ Maryanne Flannery, Interview.

the help of a skin specialist after seeing the improvements that her teammates were obtaining by using Accutane:

I think more of what happened was there were other people – especially who I danced with – who... other kids... who'd had severe acne and they were seeing a dermatologist. And so, my parents just, sort of, got the idea, okay, maybe we should take Heather to see this dermatologist, because she's doing really good things for Laurence and Lizzy and all my other friends. And so, I know I went to the same dermatologist as them.⁸⁴¹

Johnson, however, was not immediately placed on Accutane. Instead, her dermatologist opted to continue to monitor her, declaring that Accutane would only be considered as an option if/when she went on to develop cystic acne. Although Johnson described suffering from 'completely solid acne over most of my face' for over a year, her dermatologist would still not prescribe a course of the drug as 'it wasn't cystic yet'. Only when it started to develop into the cystic type did Johnson, her mother and the dermatologist agree to try Accutane to avoid 'permanent scars on her face'.⁸⁴²

The ways in which dermatologists communicated the risks of Accutane's side effects to patients varied. Aleka Yalman, for instance, recalled her dermatologist trying to reassure her and her parents by showing them pictures of patients with severe acne and stating that they were 'more likely' to feel depressed than those taking Accutane:

I remember I was speaking with a dermatologist and I was, I mean, I'm really worried. I've heard about all these side effects on mood and I remember vividly, she whipped out this enormous binder she had, this huge book, and flipped it on the desk. And she put it out on the desk, and she showed me. It was full of pictures of people who had acne so bad that their acne had acne. There was no clear skin on their face whatsoever, totally covered, and she said, 'When you take Accutane–

⁸⁴¹ While British patients, treated on the NHS, usually had to wait a prolonged period of time before gaining access to a dermatologist, those from other countries with access to private healthcare found the experience less stressful than their British counterparts. As Heather Johnson explained, 'in the States, you... that's what most people do anyways; you just decide to go see the specialist. It's very rare for you to have to wait for your doctor to tell you to go see a specialist'. Heather Johnson, Skype Interview with Iain Ferguson, 29 October 2017.

⁸⁴² Heather Johnson, Interview.

okay, you're taking Accutane but people like this are more likely to take Accutane, people like this are also more likely to be depressed.'⁸⁴³

Having previously suffered with mental health issues, Lucy Hughes remembered questioning her dermatologist about the possibility that Accutane might trigger renewed symptoms of depression. Prescribed her first course of Accutane in 2010 at the age of twenty-five, Hughes described how she took an assertive stance about the drug and asked probing questions about it – something she doubted she would have been able to do during her teenage years:

I mean maybe it's a bit unusual to be my age and taking Roaccutane for the first time, but she [her dermatologist]... I mean, she said things like... I mean, I was saying you know I'm worried about the... you know it's related to depression which I struggled with in the past or I don't know if it will damage my skin in other ways; liver damage this kind of stuff. Things like with depression, for example, she said, 'oh it's just because you know people with spots are more likely to get depressed' or like 'teenagers always are depressed anyway, so the relationship, the causal relationship between Roaccutane and depression is not proven and it's just that teenagers are more likely to get depressed and teenagers are more likely to take Roaccutane', and... I was like; yeah okay I'm not sure about that but...⁸⁴⁴

Hughes felt that her dermatologist was more willing to engage with her about the risk because she was an adult. Younger girls had a more difficult time processing the complex information that accompanied a prescription of Accutane. Emma Simpson, for example, described feeling awkward when her dermatologist began to discuss the issue of contraception. Aged sixteen during her initial consultation at Hairmyres Hospital in East Kilbride, Simpson was accompanied to the appointment by her father. While she claimed to not be 'embarrassed easily', she felt as though her dad 'probably was' uncomfortable when the dermatologist began to detail the importance of refraining from sexual intercourse whilst taking her course of Accutane:

⁸⁴³ Aleka Yalman, Interview.

⁸⁴⁴ Lucy Hughes, Interview.

So, they had to go through the whole sexual act of contraception; all that sort of stuff and they explained that I would have to have a pregnancy test every month. If I was going on this medication, I had to understand that actually I don't know if this is you know too far, but basically, they ask are you sexually active and if you were you had to agree to be on two different kinds of contraceptives. Being 16 I wasn't and yet they still said we would prefer if you were on one.⁸⁴⁵

Although the dermatologist explained that it was vital she took contraceptives, refrained from sexual activity and had monthly blood tests, Simpson described her dermatologist as being 'very, very vague in saying why that was a problem'. Other testimonies similarly reflected how this part of the consultation was a source of embarrassment for everyone involved. Moreover, some admitted refusing to accept the recommended prescription of contraceptives for various reasons. Aleka Yalman went to an all-girls school, for instance, so both she and her parents believed that they felt contraceptive medication was an unnecessary step:

But I remember also it was me sitting on the exam table, the dermatologist sitting at her desk, my parents in the two seats in front of her desk, and she said, 'Well, when you go on Accutane there is a risk of these foetal deformities and so we advise people to go on birth control.' And my parents look at each other, they look at me, and they look at the dermatologist and they go, 'She goes to an all-girls' school'. And the dermatologist goes, 'Ah, okay, no... no problem.' And I'm, like, 'Thanks.'⁸⁴⁶

**'It's like a slide. It feels like a slow slide and then suddenly you
were just going faster'**

The Peaks and Troughs of Accutane

⁸⁴⁵ Emma Simpson, Interview.

⁸⁴⁶ Aleka Yalman, Interview.

Over the years, parents and campaigners have consistently warned patients about the ‘potentially devastating side-effects’ of Accutane.⁸⁴⁷ While charitable organisations in Britain and North America have claimed that the drug is overprescribed, dermatologists countered this claim by insisting that the benefits of the drug outweigh the risks.⁸⁴⁸ Patients often struggled to reconcile these opposing viewpoints. It was difficult to access independently reliable information about what they could expect whilst on the drug. Once they had decided to take the drug, they had to undergo a range of uncomfortable and embarrassing tests before they were given a prescription. And, while on Accutane, patients had to adopt various strategies to alleviate the drug’s various side-effects.

A long list of side effects have been associated with Accutane, including anxiety, depression, eye problems, photosensitivity, bowel and neurological disorders, and patients have blamed the drug for causing subsequent long-term conditions such as multiple sclerosis, prolactinoma and the development of self-harming behaviour.⁸⁴⁹ Other patients, however, attest to having experienced no untoward effects. Whereas some described Accutane as having ‘ruined their life’, others spoke of the drug bringing them only positive benefits, improving their love lives, employment prospects and overall mental well-being.⁸⁵⁰

The ways in which patients educated themselves about Accutane differed considerably. Prior to the internet, for example, patients deliberating about whether to take Accutane had to look

⁸⁴⁷ Katie Forster, ‘Roaccutane: Warnings over acne drug linked to suicide risk after prescriptions rise sixfold in a decade’, *The Independent* (May 2017). <https://www.independent.co.uk/news/health/roaccutane-acne-drug-linked-depression-suicide-prescriptions-increase-rise-six-times-decade-a7727606.html>, Accessed 10 March 2018.

⁸⁴⁸ Ibid.

⁸⁴⁹ According to the Mayo Clinic website: ‘Prolactinoma is a condition in which a noncancerous tumour (adenoma) of the pituitary gland in your brain overproduces the hormone prolactin. The major effect is decreased levels of some sex hormones — estrogen in women and testosterone in men’. Anon, ‘‘Prolactinoma’’, <https://www.mayoclinic.org/diseases-conditions/prolactinoma/symptoms-causes/syc-20376958>, Accessed 10 December 2019.

⁸⁵⁰ Racheal Wilson, Interview.

hard for information. During the 1980s, Mary Shennan had to rely on leaflets that she ‘had to send away for’. Shennan also recalled information about both acne and Accutane being made available at her dermatology clinic by Tony Chu – the dermatologist responsible for setting up the Acne Support Group based in London:

When I went to the Dermatology Clinic in Glasgow, there were more resources there because at that stage in the late 80s there was a guy in London, a dermatologist. I think it might be Tony Chu who set up the Acne Support Group. I mean, bear in mind, this is all pre-Internet. Now, you can get all this information about anything you know, but back then there was nothing. You couldn’t, it was really what you bought in magazines. It was like literally you had to send away a stamped addressed envelope to get leaflets and that... And people forget that these days because on your phone... you’ve got the information at your fingers. He set up the Acne Support Group so I... and there was information, there was leaflets and information in the waiting room at the dermatology clinic and I kind of pursued all that. Probably because I’ve got quite a therapeutic approach in, even at that stage when I was an undergraduate, I was kind of thinking like, this is a bit self-help and management.⁸⁵¹

Unlike Shennan, Emma Simpson was prescribed Accutane during a period when access to information on the internet was easily accessible. Although her dermatologist did mention that she should avoid trying to conceive while she was on the drug, she remembered feeling let down by the skin specialist as ‘he didn’t actually explain to me what the problem was’ – an event which led to Simpson doing her own research online:

It was only when I went home and did the... you know the whole research on the Internet that I worked out that it causes massive deformities in babies. I mean, I read it and I was sort of like it’s like the thalidomide thing all over again.⁸⁵²

⁸⁵¹ Mary Shennan, Interview. In 1992, Professor of Dermatology Dr Tony Chu was responsible for setting up the Acne Support Group. As stated online, the group is committed to ‘providing support and information to anyone affected by acne or rosacea’. Since it was formed, the ASG has an impressive 12,000 members worldwide, costing £12 pound per year for students wishing to subscribe to an annual membership. For more information on the history and goals of the ASG see: ‘The Acne Support Group’, http://cyberspacehealthclinic.co.uk/support/acne_support_group.html, Accessed 10 April 2018.

⁸⁵² Emma Simpson, Interview.

Once a patient agreed to take the drug, they had to undertake a range of tests in order to determine their suitability for the drug. Mary Shennan recalled an embarrassing experience when her dermatologist had her undertake a twenty-four-hour urine collection test to check the function and health status of her kidneys:

The first time I went they said, ‘oh, it’s so important that, you know, that we check your body’s functioning. We want you to do this thing before you start, and you’ll do it again. And basically, you have to do, like, this twenty-four-hour pee test like urine test.’ And so, they gave me this drum like container. Like a petrol container... You know, like you would have with antifreeze or something like that about five litres? And er... they said ‘You’ve to take this with you and when you’re coming back for your appointment the twenty-four hours preceding that, every bit of pee you do has be added to the drum.’ And I was like ‘Ah, you’re kidding’ cos I was on placement on the day before the appointment. In the morning I was on my placement with this really prim woman, right? And I had this rucksack full of my own pee. Going into a clinical environment like, ok. And as I put it down to take this rucksack off that was full. You could just hear this great sort of sloshing noise right. And it’s like, I’m gonna have to explain to this woman what’s in my rucksack. And I did and she was just, like, she didn’t say anything about it. She was just, like, horrified. So, I mean, that was embarrassing. So, I took the thing back to the Dermatology Department and presented it to this new person, who I’d never seen before... with twenty-four hours of my pee and they said, ‘Why did you do that?’ And I was like, ‘You’re kidding? I actually have probably ruined my employment prospects.’ I think they just... perhaps it was new to them. Perhaps it was that different people had different ideas.⁸⁵³

Although Shennan found this anecdote humorous in retrospect, for other patients the required range of blood and pregnancy tests were a source of anxiety. Aleka Yalman, for instance, remembered having a ‘horrible needle phobia’ and having to go through Eye Movement Desensitisation and Reprocessing (EMDR) therapy before her course of Accutane.⁸⁵⁴ Although

⁸⁵³ Mary Shennan, Interview.

⁸⁵⁴ Although controversial, EMDR ‘is a therapy designed to alleviate the distress associated with traumatic memories’. During an appointment with a qualified therapist, patients are asked to identify ‘a particularly distressing memory’ and encouraged to move their eyes from left to right, as therapists believe that moving one’s eyes helps lessen their emotional response to a particular event. According to reports, the therapy has helped numerous people suffering from PTSD, including families of murder victims and survivors of terrorist attacks such as the 7/7 bombings. Natasha Hinde, ‘EMDR Therapy: Why Looking Left-To-Right Repeatedly Could Banish Traumatic Memories’, *HuffPost* (March 2016), https://www.huffingtonpost.co.uk/2016/03/07/emdr-therapy-eye-movement-banishes-stressful-memories_n_9397670.html, Accessed 13 March 2018.

the therapy did help alleviate her fear of needles, she recalled dreading having to have ‘blood drawn every month’ whilst on the drug:

Yeah, it was also interesting ‘cause when I was taking it originally in high school, I used to do all the blood tests every month and it was just a pain and also, at the time, I was not—when I was a bit younger than that so I guess I must have been 14 or 15 when I had the HPV vaccines. But I had a horrible, horrible needle phobia and the first time I had the first vaccine and I freaked out and the nurse had to hold me down. I was trying to jump out the window, it was really bad. And I had the second shot. Well, the first time, the gynaecologist was, like, ‘Oh, it’s definitely just ‘cause your mum was in the room and you freaked out because she was there. So next time, Mum’s not allowed to be in the room.’ And then next time, same thing. And he said, ‘Okay, I refuse to give you any more of these shots until you go get some therapy.’ So, I had to go get EMDR therapy. They put the headphone on you and it beeps in each ear and they don’t know how it works but it works. But, with Accutane, I still wasn’t loving having the blood drawn every month. I think, also, ‘cause I was on the lower dose, that helped as well not have any effects that way. It was just really inconvenient, especially being away and having to do it when I got home and, like, I was home every 6 weeks and so we were doing it then.⁸⁵⁵

As well as the monthly blood tests, other patients like Emma Simpson similarly ‘really didn’t like’ having to undergo invasive and highly embarrassing pregnancy tests. For Simpson, who was disabled, the required pregnancy testing procedure proved extremely challenging on account of the logistical difficulties associated with having to use a wheelchair in a hospital setting and the fact the disabled toilet was situated next to a busy waiting area which failed to safeguard her privacy:

I was kind of bothered by the pregnancy tests. That was one of the things I really didn’t like about it. You know, being 16 and to add to that I’m disabled, so it was a disabled bathroom I was going to, to do the pregnancy test. I just had to come out of that bathroom right into the corridor and it’s right next to the waiting room, where everyone is looking at you funny. A bit embarrassing when you’re 16.⁸⁵⁶

⁸⁵⁵ Aleka Yalman, Interview.

⁸⁵⁶ Emma Simpson, Interview.

The range of side-effects patients experienced added to their difficulties. Though dry skin and chapped lips may be considered some of Accutane's milder side effects such reactions nonetheless proved distressing to some patients and their families. Maryanne Flannery, for instance, recalled her son's acne 'suddenly exploding' during the first initial weeks of him taking Accutane and her 'feeling heart sorry for him' due to the severity of the side effects he suffered:

My son was dreadful with it. His lips were literally dried up something dreadful. Bleeding, his skin was bleeding... His skin would peel. And in the beginning... which is quite an interesting thing about Roaccutane. It's as though the spots and the pus all come out, right out of your body. It's as though this drug literally works from the inside, brings it all out..... it's not take this and all of a sudden it will go clear, oh my goodness, it explodes and you have to keep up with this, this treatment. And it doesn't just explode, it comes out as pus. It all comes out as pus. And you've got all this dry skin, you've got bleeding. Your skin is peeling. Your nose is bleeding. Oh, that's something I've just remembered now. His nose was bleeding. His lips, my goodness, I don't know how he could have even drank. His lips were so bad. And he would have to go to school and unfortunately ended up with glandular fever while he was taking Roaccutane. So, again, that was a very difficult time. And he was sitting his exams, so three issues all rolled in. And I remember going to work and feeling terrible and trying to get him out of bed and looking at his skin and feeling the pain that I used to feel. But again, he was very similar in his... He was quite a wee kind of a... Well, he never really let things get him down. He was a bit of a fighter as well, you know, he would go and do what he wanted to do but sometimes I used to feel heart sorry for him because he just looked exhausted and really done in and his face was bad. Erm and then eventually it started to all clear and I can say he ended up with one of the most beautiful clear skins for a man I'd ever seen, if I say so myself. And his colouring is so clear. He has not got a scar on his face.⁸⁵⁷

Others, such as Kirsten Harkness, similarly suffered severe side-effects and recalled being unable to apply eyeshadow due to her eyelids 'being all flaky and looking horrific'. Suffering from 'constant cracked, bleeding lips' and being unable to smile or yawn as a result of the pain, Harkness remembered 'looking like the Joker', and buying Aquaphor, an expensive

⁸⁵⁷ Maryanne Flannery, Interview.

moisturising ointment, to alleviate the symptoms. As with Flannery's son, Harkness also recalled waking up with blood on her pillow and suffering from 'major nosebleeds' that 'ruined' her mum's carpet.⁸⁵⁸ Victoria McLaughlin also suffered from severe dry skin, dry eyes and nailbed infections whilst taking Accutane:

My eyes were just unbelievably dry so even eye drops didn't work, I had to get like a thicker eye gel sort of thing to put in my eyes. I used to get quite a lot of nailbed infections because the skin was all really soft around there.⁸⁵⁹

Lucy Hughes also described how Accutane left her feeling 'like crap' – a feeling she likened to having a bad case of the flu. Moreover, like McLaughlin, Hughes recalled the drug severely affecting her eyes and being unable to open them properly for the duration of her course:

You feel crap physically... I felt exhausted. I felt like I had flu. I felt like, ah, and you feel... I don't know you're all... yeah, like nose bleeds and like... I had a few. I don't know I never had nosebleeds before that, but I had a few but they weren't, like, all the time. But I did have some nosebleeds. But yeah, just really dry skin and like dry hair and I wear contact lenses and my eyes were like...so dry... it was horrible. I couldn't open my eyes.⁸⁶⁰

While some patients suffered from predominantly physical side effects, other interviewees attested to the drug being responsible for leading to a deterioration in their mental health. Emma Simpson, for example, vividly recalled the moment she felt as though her mental health was beginning to suffer:

I think that was about a month in to the treatment. I remember suddenly thinking, if you have had a background where you've had mental health problems, you can remember how it feels. You can... it's like a slide. It feels like a slow slide and then suddenly you were just going faster. You were used to going down a bit and then suddenly it was just like a roller coaster. And volatile – the crying easily, the emotional outbursts, it... about a month in, for the next two and a half months, it was hell.⁸⁶¹

⁸⁵⁸ Kirsten Harkness, Interview.

⁸⁵⁹ Victoria McLaughlin, Interview.

⁸⁶⁰ Lucy Hughes, Interview.

⁸⁶¹ Emma Simpson, Interview.

Prescribed the drug at the same time as her brother, Simpson remembered him being more ‘volatile’ and prone to ‘more angry outbursts’ - something Simpson, found surprising given that he had never suffered from any mental health problems in the past. Similarly, Racheal Wilson attested to Accutane leading to a deterioration in her mental health: ‘I’d never considered suicide until I was on Roaccutane. I’d never self-harmed until I was on Roaccutane. And then all of a sudden...’⁸⁶²

As with Wilson, Nicola Woods recalled Accutane leading to self-harming behaviour and severe mood swings:

There was one night when I just totally lost it... I’m really ashamed about that. I felt as though I had no control... I’d spent the whole day arguing with my mum and dad and I just ran out the house.... I slapped my mum that night...She was trying to restrain me and I just lashed out... To this day, like, I still say sorry to her for that. You know, when I was on the drugs, I became so isolated... I didn’t text my friends back or anything... I just stayed in my room listening to like Papa Roach and Marilyn Manson (laughs). I just hated the world... Hated everything... Became so bloody cynical... I’ve never told anybody this, but I actually started to cut myself... I always made sure not to cut too deep because I didn’t want people noticing the cuts, but in a sick way, it felt kind of good...⁸⁶³

Oral historians have recognised how ‘narrators draw on public discourses in constructing accounts of their pasts for their audiences’.⁸⁶⁴ Many interviewees’ memories had been influenced by the media’s negative representation of the drug. Racheal Wilson, for instance, revealed that, the night before our interview, she looked up the ‘whole list of side-effects’ on the internet as she ‘couldn’t quite remember’ them. Whilst doing so, she came across ‘another suicide’ by a teenager who had taken the drug and claimed that reading the story brought back

⁸⁶² Racheal Wilson, Interview.

⁸⁶³ Nicola Woods, Interview.

⁸⁶⁴ Penny Summerfield, ‘Culture and Composure: Creating Narratives of the Gendered Self in Oral History Interviews’, *J S Hist Society* 1 (2015), 65.

painful memories: ‘And it breaks my heart. Because it very easily could have been me, like how I felt while I was on that tablet.’⁸⁶⁵

Others, such as Mary Shennan, admitted doing background research on the drug in an attempt to find a connection between Accutane and her subsequent diagnosis of hyperprolactinemia:⁸⁶⁶

I’ve looked into this and certain drugs like chemotherapy drugs and non-prescription type recreational drugs can affect your Prolactin levels.... and I’m thinking right OK, so drugs can affect your Prolactin levels. But I had not made... honestly when this is all happening, I’m just thinking I’m infertile, right? And I’m going from thinking I’m infertile because of something to do with my ovaries to suddenly find out I’m getting a brain scan because I might have a tumour. Erm... but it is interesting that I had regular periods up until I took Roaccutane and then I’ve never had one since other than through other drugs I’ve had to take that make me... when you think how significant Roaccutane’s affect is on your system and I have learned that it was a chemotherapy drug and that chemotherapy can make women infertile... Erm but I’m wondering if what’s happened is that it’s been some kind of... bounce back affect...from that. And my body’s gone into overdrive?⁸⁶⁷

Shennan’s experience not only highlights the severity of the long terms health conditions some patients went on to suffer from but also demonstrates the tendency for some to retroactively blame their current poor health on Accutane. As with Shennan, Maryanne Flannery similarly wondered whether her son’s subsequent diagnosis of multiple sclerosis was caused by the drug ‘triggering something in the immune system that could have been lying dormant’.⁸⁶⁸

While it is clear some patients taking Accutane had a markedly negative experience, other interviewees explained how the drug revolutionised their lives by clearing their skin, providing

⁸⁶⁵ Racheal Wilson, Interview.

⁸⁶⁶ According to the Hormone Health Network, Hyperprolactinemia is a ‘condition in which a person has higher-than-normal levels of the hormone prolactin in the blood’ – the condition being commonly caused by ‘a growth or tumour on the pituitary gland called a prolactinoma’. Adimoolam, Deena, Nidhi Agrawal, Anne Klibanski, Janet Schlechte, <https://www.hormone.org/diseases-and-conditions/hyperprolactinemia>, Accessed 10 November 2019.

⁸⁶⁷ Mary Shennan, Interview.

⁸⁶⁸ Maryanne Flannery, Interview.

them with more confidence and helping to ‘create a butterfly effect’ that provided them with the courage to go on and ‘explore the world’.⁸⁶⁹ Victoria McLaughlin, for example, recalled noticing a difference ‘within a week’ and ‘getting compliments on how well I looked, how well my skin looked’. As the Accutane continued to improve her complexion, McLaughlin remembered feeling like her ‘confidence just blossomed’ with one particular comment from her mother’s friend reminding her that it was ‘worth it’ to continue with the treatment despite the drug’s deleterious side-effects:

One of my mum’s friends said, at the time, ‘Are you in love, your skin’s just glowing?’ and I am like, ‘No, it’s the Roaccutane.’ It’s crazy really but that’s the sort of positive perception that I was obviously needing, that confidence boost, the thing that I was so hung up about was not there anymore, I didn’t need to worry about it.⁸⁷⁰

Other patients, such as Heather Johnson, claimed that her course of Accutane was ‘an extremely positive experience’; she would have no hesitation in allowing her future offspring to take the drug if they developed acne:

I know there are a million warnings on it, and I think it’s pretty much been taken off the market, but if I had a kid who was, you know, getting just as bad acne as I had, I would advocate for the child to get Accutane. I would! It was a great drug for me!⁸⁷¹

Patient Bill Martin similarly recalled the ‘profound effect’ the drug had on his life and claimed that he would turn to the black market to obtain the drug if it was ever made illegal:

If I needed it and it was illegal, I would obtain it on the black market. The profound effect it had on my life was incalculable. Returning to high school with clear skin totally changed my interaction with people and the world at large. It was like people could actually see me, and it is not so much that it gave me confidence, as it removed a barrier that once separated and isolated me. Acne just never crossed my mind again. It gave me the confidence to make friends, talk to girls, and most importantly be in bands and perform in front of people. Performing music opened up new creative brain spaces, took me out of my hometown, and, introduced me to new people. It totally altered my

⁸⁶⁹ Bill Martin, Interview.

⁸⁷⁰ Victoria McLaughlin, Interview.

⁸⁷¹ Heather Johnson, Interview.

place in the world and created a butterfly effect that led to everything from confidently embracing difficult intellectual pursuits, exploring the world, and generally going from shy and reticent to gregarious, charming and outgoing. I imagine an alternate reality without Accutane where I continued my old form of interaction and can see a very different, lonelier and bitterer alternate me that might have been.⁸⁷²

As discussed in chapter 6, much of the controversy surrounding Accutane has tended to focus on the drug's link with birth defects, suicide and a whole host of other unwelcome side effects. McLaughlin, Johnson and Martin's testimonies, however, show that - despite the drug being largely painted in a negative light by critics - it did nevertheless profoundly change the lives of some.

Conclusion

Arthur McIvor has argued that 'an oral history approach essentially enables a refocussed history centred on peoples' lives, on personal experience and on narrators' voices'.⁸⁷³ Moreover, Lynn Abrams has suggested that 'an oral history interview is an entry point from the present into the culture of the past. In order to gain access to that culture we must take notice of and interpret not just the words said but also the language employed, the ways of telling and the structures of explanation.'⁸⁷⁴ These interviews also further substantiate Roy Porter's claim that patients have often played a significant role in their own recovery from ill health.⁸⁷⁵ Accutane patients attested to initially opting to use alternative self-help remedies in order to reduce the severity of their acne. Only when such options failed did patients consult doctors and gain access to more conventional medical solutions. Whilst some patients were fortunate to be treated by an

⁸⁷² Bill Martin, Interview.

⁸⁷³ Arthur McIvor, 'Body talk: Oral history methodology in the study of occupational health and disability in twentieth-century British coalmining', *Strathprints* (September 2014), 3. Paper available here: https://strathprints.strath.ac.uk/54262/3/McIvor_2014_oral_history_methodology_in_the_study_of_occupational_health.pdf, Accessed 11 November 2019.

⁸⁷⁴ Lynn Abrams, *Oral History Theory*, 16.

⁸⁷⁵ Roy Porter, 'The Patient's View', 175.

understanding doctor, others claimed that the doctors they consulted lacked empathy, were poor communicators and, in some cases, appeared dismissive of their apprehensions regarding the health of their skin. British patients, in particular, described being continuously frustrated with what they perceived to be unwelcome NHS bureaucracy which essentially dictated which drugs and treatments doctors were able to prescribe.

Dermatologists have been accused of overprescribing Accutane. This chapter, however, has shown that dermatologists sometimes refused to prescribe Accutane to patients they felt did not warrant it and diligently followed the prescribing guidelines by only offering the drug to those who suffered from severe forms of acne. The role played by patients and their parents in urging dermatologists to prescribe the drug has been similarly overlooked, but there is evidence to suggest that some went to great lengths to obtain the drug, even privately funding it themselves when their dermatologist refused to do so. Faced with an unknown drug when it was first licensed in the early 1980s, patients and dermatologists alike employed various measures to help them gain a better understanding of Accutane. Dermatologists also employed a range of often invasive and highly embarrassing tests to assess patient suitability for the drug and to reduce female patients' chances of becoming pregnant. The required range of blood and pregnancy tests became a real source of anxiety for young female patients who, in some instances, were required to detail their sexual history to male dermatologists.

Finally, testimonies from both Accutane's critics and supporters ultimately highlight how difficult it is to make decisions about whether such controversial drugs should be prescribed. While Accutane has caused severe side-effects and long-lasting aftereffects, some patients are adamant that the drug has completely revolutionised their lives. With the drug unmatched in its ability to cure both mild and severe forms of acne and still widely available, its use is on the

increase and, as the final chapter demonstrates, continues to be a source of contention for those tasked with its regulation.

Chapter 8

Conclusion

The purpose of this thesis has been to analyse how physicians and patients have experienced, treated, and understood acne since the early nineteenth century. Through the lens of acne, it has shed light on many important aspects of nineteenth and twentieth-century medicine, including the rise of dermatology as a medical speciality and explored how physicians and pharmaceutical companies turned to the perceived health needs of adolescent patients. Furthermore, by investigating the lived experience of acne, it has offered fresh perspectives on the psychosocial impact of the condition and explored why sufferers turned to dangerous drugs like Accutane in their pursuit of a clear and youthful skin complexion. This final chapter summarises the key themes in the history of acne, considers what lessons this history has for

contemporary drug policy and demonstrates how acne sufferers are using social media platforms to challenge the notion that acne is ‘abnormal’.

Firstly, this thesis has offered a history of a disease about which very little has been written. As Chapter 2 contends, in the nineteenth century, increased concern about acne amongst medical and lay populations reflected broader societal concerns about class, sanitation reform, race, and female beauty. During this period, dermatologists such as Robert Willan and Thomas Bateman introduced a classification system for skin diseases which greatly assisted physicians in identifying and distinguishing cutaneous ailments like acne. Along with developments in the classification of skin diseases, microscopical analysis of the skin and improved understanding of the physiology and functions of the human epidermis showed skin to be a vital, functioning, protective organ, complete with its own inner structures. Coloured illustrations and pictures which delineated the subtypes of acne became essential and sophisticated teaching aids; allowing physicians and students to become quickly acquainted with the differences inherent in each cutaneous ailment. Interest in dermatology also led to speculations about the causes of acne. Whereas some early dermatologists linked acne to excessive sexual indulgence and masturbation, others believed the condition was caused by poor bodily hygiene.

In both the American and British context, for example, the medical profession’s increasing interest in promoting good hygiene practices for alleviating skin diseases like acne was linked to the belief in the importance of good sanitation and personal hygiene in achieving a healthy constitution. Dermatologists, such as Lucius Duncan Bulkley, believed that patients’ social class was a determining factor in both the cause of acne and being able to successfully treat the condition. Bulkley, for instance, proposed that acne was more common amongst those from the upper classes than those from the poorer segments of American society due to richer

patients' over-eating and sedentary habits. In addition, Bulkley argued that his more affluent patients' higher levels of intelligence greatly aided physicians with the latter more likely to properly follow the suggested treatment advice.

In the nineteenth century, physicians and skin specialists spoke frequently of acne being a particular source of concern for females and urged their colleagues to take the condition seriously. During this period, the growing popularity of mirrors and advances in photography meant women placed more focus on their looks and the health of their skin. Furthermore, the importance of having clear and unblemished skin was discussed regularly within both British and American literary magazines. Magazines featured women with immaculate white skin and spoke regularly of their respect for Circassian girls - an indigenous group in the Caucasus - frequently considered to be 'the most beautiful racial type'.⁸⁷⁶ The interest in Circassian girls was ultimately bound with racial theories of the period and the belief that the latter were 'the purest example of the white race'.⁸⁷⁷

A detailed analysis of the nineteenth -century medical literature reveals that, during this period, physicians used an array of different methods and therapies to treat acne. Some physicians, for instance, tried to reduce the severity of the condition and bring their patients relief by recommending treatments such as arsenic, mercury, acidulated drinks, implementing improved hygiene measures and eating more nutritious and healthy foods. Other dermatologists embraced new technological innovations such as x-ray therapy for treating acne. American dermatologist William Allen Pusey, for example, used x-ray therapy on several of his female adolescent acne sufferers to shrink the sebaceous glands and reduce the oiliness of the skin.

⁸⁷⁶ Painter, *The History of White People*, 50

⁸⁷⁷ Ibid.

Although Pusey considered x-ray therapy to be a quick, safe, and extremely valuable treatment for acne, examination of the early to mid-twentieth-century medical literature, demonstrates significant disagreement about the aetiological cause of the condition and the treatments offered to patients. Specialists from different disciplines such as allergy, bacteriology, endocrinology, genetics, gastroenterology, and psychiatry theorised that acne could be linked to problems such as an allergy to certain foodstuffs, a bacterial infection and/or emotional disturbances. The unknown cause of acne undoubtedly provided many specialists with an opportunity to enhance and elevate both their own professional status and the reputation of their specific field of study. Bacteriologists like Sir Almroth Wright and Alexander Fleming, for instance, proposed that acne was caused a specific bacterium and employed a variety of vaccines to treat the skin ailment. Despite studies showing vaccine therapy to be unreliable and, at best, a short-term remedy, they continued to be used by physicians well into the 1950s - their endurance a reminder of the dearth of efficacious acne therapies available to physicians in the first half of the twentieth century. While vaccine therapy had proven unsuccessful as the long-awaited cure for acne, there was no shortage of alternative theories explaining the cause of acne. As Chapter 3 demonstrates, several dermatologists and allergists proposed that some patients' acne could be attributed to allergies to certain foods like milk, iodized salt, and yeast. Though some dermatologists had identified acne sufferers as being particularly sensitive to yeast, ironically some pharmaceutical companies had also begun to advertise their yeast-based products as being an acne cure. In the 1930s, for instance, advertising agency, Walter Thompson Company, were responsible for an inventive advertising campaign which promoted the benefits of Fleischmann's yeast for curing acne. The marketing strategy employed by Walter Thompson Company involved playing on adolescents' fears concerning job security, finding a romantic partner, and having the financial resources to buy popular consumer

products like cars. Other theories concerning the aetiology of acne centred on psychological and psychosomatic factors. The rise of psychosomatic medicine in the late 1930s, for example, led to a series of publications investigating the link between emotional disturbances and skin diseases like acne. During the interwar period, dermatologists and psychiatrists surmised that anxieties over finances and threats to security could be linked to the increasing incidence of skin disorders that did not appear to fall within well-recognised categories. While the link between the psyche and the onset of skin disorders interested both dermatologists and psychiatrists, it was also believed that having a visible skin affliction like acne could, in contrast, lead to severe emotional disturbances in patients. Moreover, as psychoanalysis became the leading speciality within American psychiatry in the 1940s, some psychiatrists believed acne to be ‘psychogenically determined’ and proposed that the condition could be cured by psychoanalysis – a treatment that was both time consuming and costly.⁸⁷⁸

Although specialists in the first half of the twentieth century attempted to uncover both the cause of acne and employed a number of alternative therapies to try and alleviate the condition, the development of a distinct and influential youth culture in the post-war period led to a deluge of studies which raised concerns over the potentially serious psychological, social and economic implications for teenage acne sufferers. Examination of post-war medical literature - as well as newspaper and magazines aimed at the teenage market - reveals that acne was not only constructed as a threat to patients’ social standing but, equally, to the social order of the United States. In 1951, renowned paediatrician James Roswell Gallagher founded the Boston Adolescent Unit which was the first comprehensive medical section caring for patients between 12 to 21 years of age in the United States. As Chapter 4 demonstrates, Gallagher, who underlined the importance of ‘providing holistic and interdisciplinary care’ to adolescent

⁸⁷⁸ Montgomery, ‘Psychoanalysis of a Case of Acne Vulgaris’, 1939.

patients, believed the doctor-patient relationship should be more patient-centred and provide teenage patients with more autonomy when it came to matters of deciding how best to overcome their physical and emotional complaints. In Gallagher's studies evaluating the emotional problems facing American teens, anxieties about various forms of abnormality such as adolescent acne were pronounced. Gallagher believed that the problem of acne was significant not only due to its ubiquity but also the condition's potential impact on the adolescent sufferer's personality. In Gallagher's view, physicians treating adolescent acne thus had to establish a trusting relationship with their patients. Establishing a relationship was vital in enabling the patient to discuss their problems with acne, their concerns for the future and, in due course, accepting and following the physician's suggestions on how best to treat the ailment. Gallagher was averse to treating acne with unnecessary drugs and, instead, urged physicians to employ a holistic approach by promoting improved personal hygiene, eliminating any disagreeable foodstuffs, and planning an adequate program of exercise.

In the post-war period, there was a clear shift in the rhetoric regarding the seriousness of adolescent acne. Physicians and dermatologists, for example, attempted to raise awareness about the condition amongst the medical community and the public by using a range of dissemination strategies. These included: more academic publications and lectures devoted to the issue of adolescent acne, opening a range of acne clinics, and engaging with sufferers via health columns, newspapers, magazines, and questionnaires. San Antonio-born Dr Lawrence Lamb, for example, wrote a weekly syndicated column which focussed on a number of health problems, including adolescent acne. In Lamb's columns, he frequently provided teenagers with advice on how best to treat their acne and recommended therapies such as antibiotics, over the counter creams and hygiene practices best suited to clear unsightly pimples.

Medical concerns about the psychological scars of acne were also magnified by the media, criminologists, and sociologists. As Chapter 4 reveals, though on a much smaller scale than the moral panics created about AIDS, acne, too, was constructed as a real threat to the social order. The link between acne and anti-social behaviour mirrored earlier infamous connections between physiognomy and criminality, not least the work of Italian physician Cesare Lombroso. In the post-war period, sociological and criminological studies asserted that adolescent acne contributed to truancy, antisocial behaviour, and sexual delinquency as well as criminal acts such as burglary, fraud or even murder. Sociologist Frances Cooke Macgregor similarly highlighted the social and psychological ramifications of facial deformities like acne. MacGregor claimed that people with diseased or scarred faces often faced the stereotype that they had led an immoral life. Frequently ridiculed and avoided, they risked becoming social outcasts. 'Physical handicaps', such as acne, a twisted nose or facial scarring essentially acted as barriers to the privileges and opportunities enjoyed by the unscarred.

Interest in the broader meaning of teenage acne spurred the pharmaceutical industry to use marketing strategies which stressed the condition's social and psychological implications. Chapter 5, for instance, reveals that advertisements promoting anti-acne products frequently stoked adolescents' fears about having pimpled skin and offered simple solutions. The manufacturers of Clearasil attempted to fill a void in the area of acne therapeutics by developing an affordable acne treatment targeting the teenage market. The 'Clearasil Personality of the Month' advertising campaign featured both male and female acne sufferers who had used Clearasil and were only too happy to express its miraculous benefits. 'Personalities' were almost always white, middle class students who had been wholly cured of their acne having dutifully followed their treatment plan. In addition, advertisements declared that, by using Clearasil, the featured acne sufferers had not only achieved clearer skin but also

more appealing personalities. Most over the counter creams and soaps for acne were promoted as cost-effective, convenient, and scientifically proven therapies for eradicating bothersome pimples and restoring a smooth and youthful complexion.

While the pharmaceutical industry targeted the lucrative teenage market with a host of over-the-counter treatments for acne, physicians and dermatologists increasingly used new prescription drugs to combat the condition and relied on therapies such as tranquilisers, anti-depressants and even hypnotherapy to reduce the mental anguish associated with the condition. In the early 1950s, medical professionals began to investigate the possibility of tetracyclines being of clinical use for acne. A range of clinical trials concluded that antibiotics like tetracycline had the potential to markedly alter the course and severity of acne. Despite being a promising therapy for acne, antibiotics like tetracycline were associated with several deleterious side effects including liver toxicity, nausea, stomach cramps, teeth staining, photo sensitization and the retardation of bone growth in foetuses. Some physicians were also wary of the impact of long-term systemic antibiotic use and the dangers to public health posed by antibiotic resistance. Other physicians expressed concern about tetracycline's potential to mask serious sexually transmitted disease like gonorrhoea. Despite concerns over tetracycline's long-term safety, sufferers continued to seek prescriptions. The rush to obtain the drug, though, made patients vulnerable to unscrupulous and profiteering doctors who charged acne sufferers exorbitant prices for prescriptions of tetracycline.

To reduce the mental torment associated with acne, physicians often turned to pharmacological solutions and embraced new tranquilliser drugs which had been developed in the aftermath of the war. Acne sufferers who had been left scarred by the condition also sought surgical procedures to reduce both their dermatological damage and improve their self-image.

Dermatologists such as Ernst Kromayer, William G. McEvvitt and Abner Kurtin, for example, introduced their own abrasion methods for treating acne scars and other skin deficiencies in the late 1940s and early 1950s. While these abrasion methods were successful in reducing the severity of acne sufferers' scars, the procedures were expensive, painful and, in some cases, had the potential to cause third degree burns and irreversible facial scars.

As Chapter 5 demonstrates, in the post-war period most dermatologists agreed that increased sebum production played a key role in the pathogenesis of acne. Dermatologists and the pharmaceutical industry therefore set to work on trying to uncover a therapeutic that would suppress the sebum levels in those prone to breakouts of acne. In a series of clinical trials, skin specialists used the first oral contraceptive, Enovid, to reduce the severity of adolescent acne in female patients. Though the drug showed promising results, participants in the studies complained of side effects such as nausea, gastrointestinal problems, breast engorgement and weight gain. Despite the setback, dermatologists like Albert Kligman and John Strauss were undeterred in their quest to unearth an anti-acne therapeutic that would lead to long term suppression of the sebaceous glands. In some trials, Kligman used prisoners and physically and mentally challenged children as research subjects. Experimenting with both oral and topical vitamin A, Kligman prescribed huge doses to inmates at Holmesburg prison – the dermatologist later admitting that he had nearly killed test subjects in his quest to determine the maximum dosage of oral vitamin A human beings could tolerate. Retinoids – a class of drugs chemically derived from vitamin A – became increasingly popular anti-acne therapies from the mid-twentieth' century onwards. However, like other drug therapies used to treat the condition, they too were associated with a range of serious side effects. There were also significant questions regarding their long-term efficacy.

The arrival of Accutane in the early 1980s, then, was well received by the media, patients, and the dermatological community. Despite being an extremely effective drug, Accutane was also associated with dangerous side effects. As well as being a potent teratogenic, the drug was linked to serious side-effects such as serious bowel disorders, depression and suicide. This thesis has argued that the FDA faced significant challenges in implementing stringent regulatory measures to safeguard patients against Accutane's adverse side effects. In so doing it came under sustained pressure from both proponents and opponents of the drug. Examining Ronald Reagan's deregulation of the FDA, it has argued that Accutane was fast-tracked through the drug approval process and has shown that Reagan's dismantling of the patient package insert scheme exposed more fetuses to the drug's teratogenic effects.

Accutane (isotretinoin) continues to pose significant difficulties for drug regulatory bodies throughout the world. Over the past three decades, Isotretinoin has been regulated by 'increasingly stringent pregnancy prevention programs'.⁸⁷⁹ Despite efforts to reduce foetal exposure to the drug, however, pregnancies have nevertheless continued to occur. Some dermatologists, for instance, have accused iPLEDGE of being ineffective, claiming that the program's 'requirements have caused unintended harm to patients and placed a major administrative burden on both prescribers and patients'.⁸⁸⁰ In their review of the 'harm caused by iPLEDGE', dermatologists John Berbieri, Ilona Frieden and Arielle Nagler claimed that, due to iPLEDGE's strict regulatory measures, it is 'likely that many appropriate candidates did not receive Isotretinoin and received other systemic treatments, such as oral antibiotics, placing patients at risk for antibiotic associated complications and promoting antibiotics resistance'.⁸⁸¹ The authors also suggested that the 'administrative burden of iPLEDGE' leads to delays in

⁸⁷⁹ John Berbieri, Ilona Frieden and Arielle Nagler, 'Isotretinoin, Patient Safety, and Patient-Centered Care—Time to Reform iPLEDGE', *JAMA Dermatol* 156 (2020), 21-22.

⁸⁸⁰ Ibid.

⁸⁸¹ Ibid.

initiating Isotretinoin therapy in patients suffering from severe scarring forms of acne; often resulting in permanent disfigurement and a reduced quality to life. Moreover, the authors warned that the ‘logistical challenges associated with iPLEDGE’ potentially incentivised physicians and patients to reach a ‘therapeutic goal dose quickly’ as opposed to ‘using individualised dosing regimens such as longer courses with lower daily doses’. Furthermore, it was also suggested that the Isotretinoin associated office visits required by iPLEDGE placed a ‘substantial economic burden on patients, with 55% of adult patients, 80% of caregivers, and 89% of children reporting missing schools or work’. To reduce foetal exposure to isotretinoin and ensure patient safety, the dermatologists likewise called for iPLEDGE to improve:

The clarity of information in its educational materials regarding relative effectiveness of contraception methods; encourage the use of long-acting reversible contraception (LARC), such as intrauterine devices and subdermal implants; and provide additional information on how to obtain emergency contraception when needed.⁸⁸²

The dermatologists also proposed that patient information packets should ‘include the meaningful implications of a 10% annual failure rate for combined oral contraceptives caused with less than 1% for LARC’. They suggested evaluating whether framing ‘contraception options by their rate of failure (e.g. 10% risk of pregnancy with typical use) rather than their rate of success (e.g. 90% chance that it works)’ had any effect on improving patients’ understanding of the effectiveness of contraceptives. Another contentious issue associated with iPLEDGE is the ‘barrier to care for transgender patients who refuse to register as a sex with which they do not identify’.⁸⁸³ Currently, iPLEDGE requires patients to register with the

⁸⁸² Ibid. To improve the iPLEDGE program, it was also suggested that the information pack include ‘an online practice locator to help patients identify clinicians prescribing LARC and other forms of contraception’. For patients using highly effective LARC, the dermatologists suggested that it was unnecessary for iPLEDGE to require either a secondary form of contraception or to have these patients adhere to the thirty-day waiting period. In addition, they proposed reducing the ‘frequency of required confirmation (i.e., documentation of contraceptive counselling and method of contraception) in the IPLEDGE system and decrease the frequency of the required pregnancy testing’.

⁸⁸³ Ibid.

program ‘according to their natal sex’. Patients can therefore only register as ‘female patients who can become pregnant, female patients who cannot become pregnant, or male patients’ - the rules unnecessarily complicating the care of transgender patients. To overcome this barrier, the dermatologists suggested that iPLEDGE ‘simply classify patients as able to become pregnant, regardless of sex or gender’.⁸⁸⁴

In recent years, another dangerous trend has emerged which has witnessed young women illegally purchasing Accutane online and taking smaller doses of the drug.⁸⁸⁵ While the normal daily dose for treating severe acne with Accutane is 80mg per day for an average of between sixteen and twenty-four weeks the trend, known as ‘microdosing’, sees people taking regular 20mg doses for an indefinite duration.⁸⁸⁶ Illegal use of the drug is also popular amongst bodybuilders who frequently use the drug to counteract the acne related side effects associated with anabolic steroid use.⁸⁸⁷ In 2014, a study assessing the availability of Accutane and other teratogenic drugs online argued that ‘the advent of e-pharmacies has changed the dynamics of the doctor/patient relationship, and the very nature of e-pharmacies allows consumers to bypass the safeguards provided by this relationship’.⁸⁸⁸ Conducting a descriptive cross-sectional survey of fifty e-pharmacies, the authors found that Accutane (isotretinoin) could be purchased from forty-two sites ‘without a valid prescription’.⁸⁸⁹ In addition, forty-two e-pharmacy sites failed to display ‘an authentication seal/logo’ – a measure designed to show consumers that

⁸⁸⁴ Ibid.

⁸⁸⁵ Rebecca Sullivan, ‘Accutane ‘microdosing’: How women are taking low doses of acne drug to maintain perfect skin’, news.com.au, <https://www.news.com.au/lifestyle/beauty/face-body/accutane-microdosing-how-women-are-taking-low-doses-of-acne-drug-to-keep-perfect-skin/news-story/9b07de0dc2e8e6dda0470c7849c16296>, Accessed 3 February 2020.

⁸⁸⁶ Ibid.

⁸⁸⁷ Steve Smi, ‘Accutane (Isotretinoin)’, Evolutionary.org, <https://www.evolutionary.org/accutane-isotretinoin> Accessed 3 February 2020.

⁸⁸⁸ Briega M Lagan, Helen Dolk, Bronagh White, Donald R. A. Uges and M. Sinclair, ‘Assessing the availability of the teratogenic drug isotretinoin outside the pregnancy prevention programme: a survey of e-pharmacies’, *Pharmacoepidemiol Drug Saf* 23 (2014), 411–418.

⁸⁸⁹ Ibid.

they are purchasing medicines from a legal and registered online pharmacy or retailer. More worryingly, twenty-five sites failed to inform female consumers that Accutane was a potent teratogen, twenty-four sites did not caution female consumers against using the drug whilst pregnant, whilst thirty-three sites provided no guidance on avoiding Accutane if females were ‘planning or at risk of a pregnancy’.⁸⁹⁰ Upon purchasing eight prescriptions, seven arrived, with all failing to include ‘any patient information leaflet’. After testing, all seven packages were verified as containing Accutane. Arguing that ‘the Internet provides a loophole for purchasing of medications known to cause congenital abnormalities’, the authors urged medicines regulatory agencies throughout the world to urgently address the situation.⁸⁹¹

Whilst the teratogenicity of Accutane still poses a significant problem for drug regulatory bodies, the drug continues to be implicated in causing a range of psychiatric symptoms. Between 1997 and 2017, for example, ‘17,829 psychiatric adverse events with isotretinoin use were reported to the US Food and Drug Administration, with depressive disorders emotional lability, and anxiety disorders reported most frequently’.⁸⁹² Despite these findings, it has been claimed that there is no established ‘causal link between Isotretinoin and psychiatric risk’, with dermatologists suggesting that such ‘reports must be considered in the context of elevated rates of depression and suicide among patients with acne at large’.⁸⁹³ In Britain, ‘The Medicines and Healthcare Products Regulatory Agency’s isotretinoin expert working group’ has been

⁸⁹⁰ Ibid.

⁸⁹¹ In 2013, the FDA introduced a national campaign to ‘educate consumers about the dangers of buying medicine from fake online pharmacies and help people safely buy medicine online’. The campaign, which is called FDA BeSafeRx, seeks to help consumers purchase safe and effective medicines online and is particularly aimed ‘at consumers who have or who would consider purchasing prescription medicines from an online pharmacy that is not associated with a health insurance plan or local “brick and mortar” pharmacy to save money or for convenience’. For more about BeSafeRx see: ‘About BeSafeRx’, <https://www.fda.gov/drugs/besafex-know-your-online-pharmacy/about-besafex>, Accessed 10 May 2010.

⁸⁹² Sean Singer, Elizabeth Tkachenko, Priyank Sharma, John Barbieri and Arash Mostaghimi, ‘Psychiatric Adverse Events in Patients Taking Isotretinoin as Reported in a Food and Drug Administration Database From 1997 to 2017’, *JAMA Dermatol* 155 (2019), 1162-1166.

⁸⁹³ Ibid.

reconvened following ten suicides being recorded amongst patients taking isotretinoin in 2019. The group, which is made up of experts from fields such as dermatology, psychopharmacology and epidemiology (amongst others), will ‘evaluate the risk of sexual and psychiatric adverse effects, including suicide’.⁸⁹⁴

This history provides important lessons for drug policy. Firstly, one must question whether having a teratogenic drug on the market is ethically and morally acceptable. Whilst pregnancy prevention programmes may potentially reduce the number of foetuses exposed to potent teratogens, the only way of wholly eradicating the risk is by removing generic forms of Accutane from the market. Despite the use of contraceptives being considered a key feature of the risk management programmes introduced to reduce foetal exposure, for over three decades, the overreliance on using contraceptive methods for reducing Accutane related birth defects has proven to be unreliable. Strategies such as providing patients with contraceptive counselling, educational materials, and clearer drug labelling, as well as ensuring those prescribed Accutane sign informed consent forms and agree to mandatory pregnancy testing, have similarly failed to provide guaranteed safeguards.

When drug policy makers in the future weigh up the dangers associated with approving teratogenic drugs to treat non-life-threatening conditions like acne, it would be beneficial to consider the numerous factors which contributed to the Accutane tragedy. On the one hand, Roche and the FDA were undeniably reckless in both introducing the drug and fast tracking it through the drug approval process. Despite early available evidence that Accutane posed a serious threat to babies exposed to the drug in utero, the FDA failed to introduce tough

⁸⁹⁴ Elisabeth Mahase, ‘Isotretinoin: experts convene to investigate new concerns over suicide risk’, *BMJ* 367 (2019), 17085.

regulatory measures in a fast and efficient manner. In addition, as Sidney Wolfe from Public Citizen pointed out in 1989, risk management programs such as the PPP ultimately shifted responsibility for any adverse outcomes associated with Accutane from the ‘manufacturer and marketer to the prescriber and patient’.⁸⁹⁵

Dermatologists, physicians, pharmacists and patients must also bear some responsibility. Dermatologist and pharmacists, for example, have been accused of failing to adhere to the strict protocols of the risk management programmes – their actions ultimately putting scores of fetuses at risk. At the same time, patients were also somewhat reckless. Despite being aware of the risks associated with Accutane, some patients demanded access to the drug and were lax about both birth control measures and the need to avoid sexual intercourse whilst taking the drug. There were many reasons for their reluctance. As Fugh-Berman pointed out in 1990, the main tenets of the PPP encroached on women’s autonomy and privacy, arguably permitting physicians to ‘police the patients’ in order to ‘enforce compliance’. In Berman’s view, whilst physicians were responsible for advising patients about the risks of drugs, it was ‘absurd’ to recommend ‘that all women using this drug be subjected to monthly pregnancy tests or be forced to take hormonal contraception as the price of obtaining this drug’.⁸⁹⁶

As well as Accutane’s link with causing serious birth defects, the drug has also been linked to numerous deleterious side effects. This raises the question of whether tougher standards for side effects and testing may have ‘rooted out’ such undesirable effects. As Fran Hawthorne has

⁸⁹⁵ Transcripts from the Dermatologic Drugs Advisory Committee Meeting (8 May 1989), 135.

⁸⁹⁶ Transcripts from the Dermatologic Drugs Advisory Committee and The Fertility And Maternal Health Drugs Advisory Committee, (21 May 1990), 12.

argued, ‘if the FDA required tougher tests before approval’ more drugs would potentially be recalled sooner ‘based on stricter standards of acceptable levels of side effects’.⁸⁹⁷

There is scope for future research into the Accutane affair, for example, examining the race or gender barriers for people accessing treatment. One study found that ‘differences in delayed start, interruption, and premature termination of isotretinoin exist across racial domains’ with white patients more likely to finish their prescribed course of Accutane than non-white patients.⁸⁹⁸ The reasons cited for the ‘delays and interruptions’ were linked to the logistical difficulties associated with iPLEDGE. These included: computer issues, missed pick-up windows, and missed/delayed appointments/tests. The study also found that patients from lower socioeconomic backgrounds and non-white patients were often uncomfortable with using online patient portals signifying that ‘significant electronic requirements may serve as barriers to access for such populations’.⁸⁹⁹ Another study discovered that black patients received less Accutane than white patients with the high cost of the drug appearing to be ‘one factor in this difference’.⁹⁰⁰ Concerning gender differences, a 2010 study found that thirty-two per cent of female patients were treated with Accutane despite their acne being ‘clinically graded as moderate’ whereas the ‘corresponding figure’ for males was twenty-three per cent. Patients treated with Accutane demonstrated a significant improvement in their quality of life.⁹⁰¹

⁸⁹⁷ Fran Hawthorne, *Inside the FDA: The Business and Politics Behind the Drugs We Take and the Food We Eat* (London: John Wiley & Sons, 2005), 121.

⁸⁹⁸ Alexandra Charrow et al. ‘Differences in isotretinoin start, interruption, and early termination across race and sex in the iPLEDGE era’, *PloS One* 14 (2019), 1-8.

⁸⁹⁹ Ibid.

⁹⁰⁰ Alan B Fleischer, Joanne K Simpson, Amy McMichael, and Steven R Feldman, ‘Are There Racial and Sex Differences in the Use of Oral Isotretinoin for Acne Management in the United States?’, *JAAD* 49 (2003), 662-6.

⁹⁰¹ Matthew Berg and Magnus Lindberg, ‘Possible Gender Differences in the Quality of Life and Choice of Therapy in Acne’, *J Eur Acad Dermatol Venereol* 25 (2011), 969-72.

There is also evidence that suffering from acne is becoming both more socially accepted and, in some cases, celebrated. In 2018, for instance, popular British blogger Em Ford posted a YouTube video entitled ‘You Look Disgusting’ which laid bare the realities of living with acne.⁹⁰² Pictured in full make-up, which effectively concealed the majority of her spots, Ford removed her foundation to reveal her face covered with acne. After posting the video, which was viewed ten million times in the first week, Ford received abusive messages concerning the state of her skin, including offensive comments such as ‘WTF is wrong with her face?’, ‘I can’t even look at her’, and ‘Ewww, gross, horrible, ugly’.⁹⁰³ Despite the hurtful comments, Ford’s video also proved extremely popular amongst acne sufferers, quickly amassing over one million subscribers, including celebrities like Justin Bieber and Kylie Jenner. On Instagram, Bieber posted a picture of himself suffering from acne during his adolescent years and captioned the image as ‘pimples are in!’ The flurry of positive messages about acne spurred the ‘rise of the acne positivity movement’ which has witnessed acne sufferers – including celebrities and bloggers – ‘going bare faced’ on social media and ‘opening up about their skin problems’.⁹⁰⁴

Others have started to challenge the notion that acne is ‘abnormal’ and, instead, have urged sufferers to think of spots as being a natural part of the human condition. In 2017, for instance, supermodel Cara Delevingne reposted an image of activist and photographer Peter De Vito’s acne scarred face which included the words ‘Acne is normal’. Explaining why he refrained from retouching his images to remove blemishes, De Vito said ‘It makes me happy when

⁹⁰² Laura Barton, “‘Pimples are in’ – the rise of the acne positivity movement’, *The Guardian* (September 2018), <https://www.theguardian.com/fashion/2018/sep/18/pimples-in-rise-of-acne-positivity-movement>, Accessed 5 June 2010.

⁹⁰³ Ibid.

⁹⁰⁴ Ibid.

people accept themselves for the way they look and learn to stop comparing themselves to other people on social media all the time’.⁹⁰⁵

Nevertheless, the teenage acne market offers lucrative financial incentives to dermatologists and the pharmaceutical industry. Similar to the Clearasil advertising campaigns in the post-war period, skin specialists and drug manufacturers continue to employ scare tactics to reinforce the idea that acne is detrimental to sufferers’ mental health and social standing. While there has been a rise in the range of natural and alternative therapies to treat acne, drug treatment does however remain the cornerstone of treatment strategies.⁹⁰⁶ In 2020, for instance, the FDA approved the topical retinoid, Trifarotene, which can be prescribed to patients suffering from acne from the age of nine. Common side effects of Trifarotene include irritation, itching, pain, skin dryness and stinging or burning sensations.⁹⁰⁷

Alongside the increasing use of drug treatments, dermatologists have also expressed a desire to improve knowledge about acne amongst medical and lay populations. In 2018, The Global Alliance to Improve Outcomes in Acne – an ‘international group of dermatologists with an interest in acne research and education’ – urged medical universities throughout the world to devote more teaching hours to the condition.⁹⁰⁸ Despite acne being an extremely common disease, the group found that ‘little time is spent on it within medical curricula, even within

⁹⁰⁵ Ibid.

⁹⁰⁶ In February 2020, three new ‘natural’ and ‘non-abrasive’ acne products were launched in Los Angeles which is a leading player in the global beauty industry. For more on these products see: Melissa Magsaysay, ‘Got zits? Three new teen acne products from L.A. might offer relief’, *Los Angeles Times* (25 February 2020), <https://www.latimes.com/lifestyle/story/2020-02-25/got-zits-new-teen-skin-care-products-los-angeles-hit-market>, Accessed 21 January 2020. Another growing phenomenon is the field of psychodermatology which focusses on treating skin problems by improving sufferers’ mental health. Rebecca A. Clay, ‘The link between skin and psychology’, *APsA* 46 (2015), 1-4.

⁹⁰⁷ Anon, “Trifarotene (Aklief)—A New Topical Retinoid for Acne”, *JAMA* 323 (2020), 1310-1311.

⁹⁰⁸ Diane M. Thiboutot et al, ‘Practical management of acne for clinicians: An international consensus from the Global Alliance to Improve Outcomes in Acne’, *JAAD* 78 (2018), 1-20.

dermatology modules'.⁹⁰⁹ In the United States, for example, thirty-three medical schools offer no dermatology courses whilst over half devote only ten hours to diseases of the skin.⁹¹⁰ As scientific advances and treatment strategies in acne become more refined, dermatologists have also utilised tools such as social media to reach and converse with acne sufferers online. In 2013, for example, dermatologists Melissa Shive, Mehul Bhatt and Andrew Cantino argued that Twitter is 'a potentially powerful source of information and route of communication for acne, especially since the Internet can be an adolescent's primary source of health information'.⁹¹¹ Shive, Bhatt and Cantino urged the dermatological community to use Twitter to address misconceptions about acne and to 'communicate reliable medical information'.⁹¹² Moreover, given that there is a 'significant amount of negative commentary about acne on Twitter', the dermatologists suggested that skin specialists could use the platform to correct incorrect information and provide advice relating to the best home and alternative remedies to use for the condition. By doing so, dermatologists would be able to 'deliver the best patient education and care possible, both online and in the clinic'.⁹¹³

As debate over how to treat acne continues, toxic and highly dangerous treatments like Accutane continue to pose a threat to people's lives. With generic forms of Accutane prescribed by dermatologists throughout the world on a daily basis, it is essential that acne sufferers be made fully aware of the inherent dangers they face in their pursuit of a blemish-free complexion. 'A Face to Die For' has argued that acne was a socially constructed disease, shaped by the medical profession, criminologists, sociologists, the media, the pharmaceutical

⁹⁰⁹ Ibid.

⁹¹⁰ In Europe, which is home to 25,000 dermato-venereologists, the group found that 'teaching hours vary between 18 to 40 hours during medical undergraduate training; however, all medical schools teach dermato-venereology'. Ibid.

⁹¹¹ Melissa Shive, Mehul Bhatt and Andrew Cantino, 'Perspectives on Acne: What Twitter Can Teach Health Care Providers', *JAMA Dermatol* 149 (2013), 621-622.

⁹¹² Ibid.

⁹¹³ Ibid.

industry and, ultimately, acne sufferers themselves. By exploring how acne has been experienced, treated and understood, it has also provided much-needed historical context for the ongoing Accutane controversy.

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