

The Nervous and Allergic Child: Food Allergy and Behavioural Problems in Mid-Twentieth-Century USA

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Introduction

Imagine the scenario: it is 1950 and you are the American parent of a child who is suffering from unexplained chronic symptoms, possibly skin eruptions, asthma, gastrointestinal complaints, or maybe even behavioural problems. Having sought medical advice for your unhappy child, two very different trajectories of diagnosis and treatment would have been offered, depending on the background and outlook of the physician with whom you consulted.

The first alternative can be illustrated by the case of 'John', who was first seen by Brooklyn psychoanalyst Melitta Sperling (1899-1973) in the late 1940s. John was initially brought to Sperling aged six, suffering from asthma, a range of other allergies and behavioural problems. Until then, his symptoms had been treated by an allergist, who had placed him on a severely restrictive diet. After a year of analysis, however, it was clear to Sperling that the fractious and potentially abusive relationship between John and his mother was at the root of his allergies. John's mother had not wanted a second child (which John was), and had certainly not wanted another boy (to the point that she had given John a 'girl's' name which she only changed after a year of analysis). Following analysis, John began to recognise the connection between his symptoms and her resentment. During a session, he declared: 'You know when I get asthma? When you yell at me and push me and beat me up' (Sperling, 1949).

During her own analysis, the mother recalled how she had transformed ‘from a healthy baby to a moody, sick child’ after the birth of her younger brother (Sperling, 1949, 377). As Sperling explained, this unresolved relationship with her brother had resulted her developing a ‘death wish’ for John, which was acted out ‘in inconsistent and often sadistic behavior towards him’ (377). Once she had come to terms with the origins of their difficult relationship, John’s mother was able to help him with his allergies, for example, foiling an asthma attack by distracting him with some toys. John’s father, who had previously doubted Sperling’s psychosomatic explanations, was finally convinced when his son was able to keep a dog, to which he had previously been allergic. Eventually all of John’s dietary restrictions were lifted.

The second alternative is exemplified in the case of a fifteen-year-old boy seen in 1945 by T. Wood Clarke (1878-1959), a consulting allergist at Marcy State Hospital, a psychiatric facility in upper-state New York. Beginning at the age of twelve, the boy had suffered ‘from attacks of acute excitement in which he would rage around the house smashing china and furniture’ (Clarke, 1950, 175). At their wit’s end, his family had sent him to a psychiatrist with the expectation that he would be placed in a state psychiatric hospital. In this case, however, the psychiatrist in question, former American Psychiatric Association president Richard H. Hutchings (1869-1947), noticed that the boy had suffered allergic symptoms in the past and referred him to Clarke. Clarke found that the boy reacted to oat, wheat, feathers, pollen cat dander and house dust. The removal of oats and wheat from his diet was ‘dramatic in the extreme. Almost overnight the boy’s entire character changed. From being unhappy and apprehensive he became, in a very few days, happy and co-operative’ (175)

Inspired by this case and a number of others at Marcy State hospital, Clarke surveyed 171 American and Canadian allergists about the link between allergies and behavioural symptoms in children. Ninety-five of those allergists surveyed concurred that they believed that allergies, especially food allergies, could be responsible for such personality changes, and many wrote back to Clarke describing similar cases of recovery. In attempting to elucidate the mechanism for such a phenomenon, Clarke pointed to the long-held hypothesis, dating back at least to the eighteenth century (Fothergill, 1784), that migraine headaches could be caused by food. In such cases, the allergic reaction manifested itself in cranial swelling, which caused the pain associated with migraine. Clarke described how a Tennessee-based physician, Alfred M. Goltman, had seen such swelling first hand when he had performed a decompression operation (permanently removing a flap of the skull to relieve cranial pressure, now referred to as decompressive craniectomy) on a young woman in the belief she had a brain tumour (Goltman, 1936). The migraines continued and when they occurred, 'the skin over the skull bulged so markedly that it could be seen from a distance of several feet' (Clarke, 1948, 393). Clarke claimed that many a 'problem child' suffered from this condition, which he called 'cerebral allergy' or 'neuroallergy', and that some could 'end up as a true psychotic' (1950).

So, what was a parent to think? Were psychological disturbances the result of hidden, undiagnosed allergies? Or were allergic symptoms actually the manifestation of unresolved psychic conflict? And how could two so different explanations co-exist during the middle of the twentieth century in the United States? In what follows, I will trace the origins and development of these seemingly disparate approaches to both allergy and mental health.

You Are What You Eat

Up until the last 150 years or so, most physicians would not have questioned that food could cause psychological disturbances. This is because, within the framework of humoral medicine (which remained influential in western medicine from the time of Hippocrates in the 5th Century BC to the emergence of germ theory in the late-nineteenth century), food played a major role in balancing the humours: black bile, yellow bile, blood and phlegm. Melancholia, for instance, was associated with excess amounts of black bile in the body; foods that shared the qualities of black bile, specifically, foods that were cold and dry, could therefore trigger or exacerbate an individual's melancholia. One example of the connection between food and melancholia can be found in *The Anatomy of Melancholy* (1621) by Oxford scholar Robert Burton (1577-1640). Although Burton stressed that melancholy could be caused any number of factors, foods such as beef, venison, rabbit, milk, fish and a range of fruits, vegetables and pulses could all trigger a spell. Cabbage was singled out as being particularly problematic, causing 'troublesome dreams' and sending 'black vapours to the brain' (Burton, 1621, 239).

A later example of the connection between improper diet and the behavioural problems of children can be found in Charles Dickens' *Oliver Twist*. After Oliver Twist attacks Noah Claypole for insulting the memory of his mother, Mrs Sowerberry and Mr Bumble discuss what might have led to his violent and impertinent behaviour:

'Oh, you know, Mr. Bumble, he must be mad,' said Mrs. Sowerberry.

'No boy in half his sense could venture to speak so to you.'

'It's not Madness, ma'am,' replied Mr. Bumble, after a few moments of deep meditation, 'it's Meat.'

'What!' exclaimed Mrs. Sowerberry.

‘Meat, ma’am, meat,’ replied Bumble, with stern emphasis. ‘You’ve overfed him, ma’am. You’ve raised an artificial soul and spirit in him, ma’am, unbecoming a person of his condition: as the board, Mrs. Sowerberry, who are practical philosophers, will tell you. What have paupers to do with soul or spirit? It’s quite enough that we let ‘em have live bodies. If you had kept the boy on gruel, ma’am, this would never have happened.’ (Dickens, 1839, 108)

Although Bumble’s explanation strays somewhat from humoral medicine, quasi-humoral theories linking food and mental disturbance would surface even in the early twentieth century. *The Food Factor in Disease* (1905), written by Irish-born physician Francis Hare (1858-1928), for example, noted how excessive consumption of food, especially those high in carbohydrates, could result in a condition called ‘hyperpyraemia’ (3). Rooted in the Greek for fuel (pureia), hyperpyraemia could cause a wide range of unexplained symptoms, including mental disturbance. One of Hare’s patients, for example, suffered from ‘intense mental depression ... the more depressed he came the bigger the breakfast he ate ... as a result his depression intensified ... The depression ceased concurrently with the alteration of diet’ (213-14).

The year after *The Food Factor in Disease* was published in 1905, the term allergy was coined by Austrian paediatrician, Clemens von Pirquet (1874-1929) as ‘any form of altered biological reactivity’ (1906, 1457). Although it took until the late 1920s for the term to replace the term anaphylaxis, which had been coined in 1902 by the Nobel Prize-winning French physiologist Charles Richet (1850-1935), as the general description for idiosyncratic reactions to pollen, insect stings, animal dander, food and other substances, von Pirquet’s broad definition would eventually be embraced by many allergists, especially those who

emphasised the role of food as the cause of many otherwise undiagnosed health problems (Smith, 2015). Since skin testing for food allergy was less reliable than it was for inhalant and other allergies (and often unsafe), these so-called ‘food allergists’ relied more on clinical observation and employed elimination diets to diagnose their patients. Elimination diets involved patients going on a restricted, hypoallergenic diet, and then adding suspected foods individually to see if there were any reactions. Patients would record their observations in diet diaries and once the specific foods were identified, avoidance was the primary treatment. ‘Orthodox allergists’, those who wanted to see clear evidence of immunological dysfunction (through a skin test, for instance), opposed the practices of food allergists and their claims that food allergy was a widespread, under-diagnosed cause of many chronic symptoms (Vaughan, 1942; Coca, 1943). Interestingly, many orthodox allergists would also be drawn to psychosomatic explanations of allergy, bringing them into confrontation with food allergists, who, in turn, downplayed such possibilities.

Children were often central to these debates. As early as the 1910s, American physicians were making connections between allergies – especially those to food – and behavioural problems in children. In 1916, for instance, Detroit paediatrician B. Raymond Hoobler described how, along with intestinal, dermatological and respiratory problems, food sensitivities could cause neurological symptoms including irritability, restlessness, fretfulness and insomnia. Minnesota paediatrician W. Ray Shannon echoed such claims in 1922, adding that food allergies could also trigger ‘nervous’, ‘introspective’, ‘high-strung’, ‘cruel’, and ‘out of sorts’ behaviour, as well as poor academic performance (89-94).

Shannon and Hoobler were soon joined by many other physicians during the 1920s, 1930s and 1940s who made similar observations about allergies and child behaviour, including Albert H. Rowe, William Waddell Duke, George Piness, Hyman Miller and Walter Alvarez, who described such reactions as ‘puzzling nervous storms’ (1946). In retrospect, many of the symptoms depicted by such physicians resemble what today would be described as Attention Deficit Hyperactivity Disorder (ADHD), which was first recognisably described by Rhode Island child psychiatrists in 1957 as ‘hyperkinetic impulse disorder’ (Laufer and Denhoff, 1957; Laufer, Denhoff and Solomons, 1957). Prior to 1957, children presenting the sort of symptoms now diagnosed as ADHD did not attract a great deal of attention from mental health professionals and paediatricians, who tended to be more concerned with shy, withdrawn and nervous children (the title of the journal, *The Nervous Child*, which ran from 1942 to 1956 is evidence of this different focus). When hyperactivity in children was identified prior to 1957, it was often in association with other, more serious, behavioural and neurological problems, and was typically attributed to brain damage caused by either brain infections (such as encephalitis), perinatal difficulties or head injuries, so much so that the term ‘minimal brain damage’ was often used to describe such symptoms (Smith, 2012). When hyperactivity was *not* associated with brain damage or other, more severe, symptoms was identified, food allergy was usually cited as a likely cause.

A 1945 article by Ohio paediatrician Wilmot F. Schneider in the *Journal of Pediatrics* entitled ‘Psychiatric evaluation of the hyperkinetic child’ highlights this tendency. In the article, Schneider bemoaned the variety of unfounded explanations often put forth to explain hyperactive behaviour in children, complaining that ‘too little attention is given by the general physician and pediatrician to the role of allergy’ (Schneider, 1945, 560, 567). Similar sentiments could be found in an article written by food allergist Theron G. Randolph (1906-

1995) who, along with many physicians, were concerned that allergic explanations for childhood behavioural problems were overlooked or dismissed. In many cases, the undiagnosed, allergic child would be branded a 'naughty brat' and told to 'snap out of it', along with being subject to various punitive interventions (Randolph, 1947, 562).

In 1954, Kansas City paediatric allergist Frederic Speer (1909-1985) went further in trying to explain the problems faced by such children, employing the term 'allergic tension-fatigue syndrome' to describe their condition (1954, 168). Allergic tension-fatigue syndrome was not only characterised by hyperkinesia and irritability (the 'tension' part of the condition), but also sluggishness and torpor (the 'fatigue' element). Schoolchildren struggling with this syndrome were often 'the prime disturbing influence in their class' due to their inability to restrain themselves from 'virtually uninhibited activity' (Speer, 1958a, 207). In addition to these behavioural symptoms, however, such children also presented somatic symptoms, including dark rings or bags under their eyes, nasal congestion, sneezing, nausea, night sweats, breathing difficulties and gastrointestinal problems, a feature later allergists, such as Doris Rapp, would also recognise in hyperactive children (1979). For Speer, such symptoms indicated that at the root of the psychological issues was an underlying organic issue, namely, allergies, usually to foods such as milk, chocolate, egg and corn.

Perhaps in an attempt to provide additional weight to his theory, Speer would go on to publish a historical overview of the link between allergy and nervous complaints, arguing that there was 'considerable evidence that the ancients were not far from a true understanding of the phenomena which we now class under the heading of nervous system allergy. Both philosopher and physician agreed that diet or digestion often had an unfavourable effect on

the mind' (1958b, 14). During the post-WWII period, however, the influx of new food chemicals into the diets of American children added a new, decidedly modern, dimension to debates about allergy and mental health. In the late 1940s, a handful of allergists, including Stephen D. Lockey (1904-1985) and the aforementioned Randolph, became concerned about the allergenic effects of a range of synthetic food additives, as well as other environmental chemicals (Lockey, 1948; Randolph, 1954). Although concerns about such chemicals escalated during the 1950s and 1960s, with the 1958 Food Additives Amendment (or Delaney clause) to the Food and Drug Act and the publication of Rachel Carson's *Silent Spring* in 1962 heightening public interest, the link between food additives and hyperactivity became best known during the 1970s, when a retired San Francisco allergist named Ben F. Feingold (1899-1982) wrote a popular book on the subject.

Whereas the observations of Randolph and Lockey were relatively well-known within allergy circles and related fields (such as the sub-discipline clinical ecology, which Randolph founded in 1965), Feingold's books *Why your child is hyperactive* (1974) and its sequel *The Feingold cookbook for hyperactive children* (1979) transcended the allergy community and became bestsellers (Smith, 2011). A well-respected allergist who had trained at von Pirquet's clinic in Vienna, Feingold had not been particularly sympathetic to food allergists, such as Theron Randolph or Albert H. Rowe, for much of his career, and had previously written about psychosomatic aspects of allergy (Feingold, 1951; Feingold et al, 1966; Freeman et al, 1967). Due to a series of serendipitous encounters during the late 1960s and early 1970s, however, Feingold became convinced that food additives and a range of fruits and vegetables could trigger hyperactive behaviour in children. Although Feingold initially attempted to present his findings at medical conferences and in leading medical journals, he was repeatedly rebuffed. Determined to get his hypothesis out to the American public, he then

agreed to publish a popular book with Random House, and soon he was discussing the food additive-free Feingold diet on television and radio and in the printed press. Buoyed by concern in food chemicals and the emergent organic food movement in the United States, the Feingold diet attracted a great deal of interest (Belasco, 2006). Thousands of parents, many of whom either found the pharmaceutical treatments for hyperactivity either unpalatable or ineffective, were drawn to the Feingold diet, eventually forming the Feingold Association of the US (FAUS), which is still in operation today.

Most physicians, along with the food, chemical and pharmaceutical industries, however, were highly sceptical and subjected the Feingold diet to a series of clinical trials. Many of these trials were funded and partially designed by the Nutrition Foundation, an industry lobby group which founded a committee of like-minded scientists and physicians to test Feingold's claims. Although many of these trials were poorly designed and although they yielded a mix of positive and negative results, by the time of Feingold's death in 1982, the general consensus in the medical community was that hyperactivity was not caused by food additives. Despite the fact that physicians had been writing about the link between diet and child mental health for decades and despite the thousands of parents who believed elimination diets made a difference, by the mid-1980s, few physicians would suspect dietary factors in the mental health problems of children.

All in the Mind

One of the chief criticisms of the Feingold diet was that its effects were all down to the placebo effect. The Nutrition Foundation argued that placebo could operate in a number of ways in the case of the diet. First, the hope and expectation that the diet would work could

have a positive effect on child behaviour. Second, the dietary changes undertaken within a household, along with the increased attention paid to the hyperactive child, could cause ‘alterations in family dynamics’, resulting in a reduction in symptoms (National Advisory Committee on Hyperkinesia and Food Additives, 1980, vi). Finally, Feingold’s grandfatherly charisma and confidence in his regimen could also affect parental perception of improvement. By placing such emphasis on the placebo effect, Feingold’s critics were not only ensuring that the clinical trials of his diet would control for such factors – a difficult task in such a complicated scenario – but also taking advantage of the prevailing interest in the role psychosomatic factors could have in medicine (for more on placebo see: Collins and Pinch, 2005; Harrington, 1999).

Indeed, as the story of ‘John’ that introduces this article indicates, the relationship between mental health and allergy was seen by many allergists and mental health professionals to flow in the opposite direction: psychological issues could be the root cause of many allergic symptoms. Allergy was featured prominently in the writing of pioneering psychosomatic theorists Erich Wittkower (1899-1983) and Helen Flanders Dunbar (1902-1959). In 1938, the German psychiatrist Wittkower (who was working at the Tavistock Clinic in London and would go on to become professor of psychiatry at McGill University in Montreal and president of the American Psychoanalytic Association) developed the concept of the ‘allergic personality’. As the historian Mark Jackson has described, Wittkower believed ‘that the typical hay fever patient was a delicate, upper-class, only child who subsequently developed into an emotionally and socially maladjusted adult’ (2006, 85). Eczema could also be a product of emotional insecurity. While such patients might be polite and well-mannered on the surface, they could also be difficult, obstinate and irritable (Jackson, 2007). Dunbar, a highly influential psychiatrist who founded the journal *Psychosomatic Medicine* with Franz

Alexander (1891-1964) in 1939, also linked allergic disease (especially asthma, hay fever and eczema) to early childhood experiences (1947), as did Alexander himself, who was among the first to write of the connection (French and Alexander, 1941). Allergy would become a popular topic for the journal throughout the post-war period.

Much like the case study of 'John' (described above) and as with many psychoanalytically-oriented psychiatrists of the time, Dunbar singled out 'the emotional, implicitly sexual, relationship between children and their mothers' as being particularly significant (Jackson, 2007, 162). Other psychiatrists followed suit. In a 1946 issue of *The Nervous Child* focussing on 'Psychosomatic problems of childhood', four out of the seven articles focussed on allergic diseases, including one by psychiatrist Leon J. Saul (1901-1983), entitled 'The relations to the mother as seen in cases of allergy'. Using psychoanalytic theory to analyse a number of cases, Saul argued that while oral attachments between mother and child were well documented and could be linked to gastrointestinal allergies, the dermal and respiratory attachments were less understood, yet played a substantial role in allergies affecting the skin and respiration (1946). In one case, a girl who had been neglected by her mother developed eczema, hay fever and asthma. Although skin testing revealed allergies to ragweed and dust, desensitisation therapy (introducing miniscule amounts of an allergen into the bloodstream in order to build up tolerance) had no effect. Whenever the girl went to live with her grandmother, who was kind and affectionate, all her symptoms disappeared. In a very different case, a girl of fourteen with an 'extremely close' relationship with her mother ('We've always been so close, more like sisters'), developed asthma when she was about to leave for boarding school (Saul, 1946, 333). With each subsequent 'separation from home ... she yearned to return to the warmth, devotion, and protection of her mother which she had enjoyed throughout her happy childhood' and the asthma attacks returned (Saul, 1946, 334).

Although psychoanalysis and hypnosis were often employed to treat such children, in some recalcitrant cases of asthma, as Mark Jackson and Carla Keirns have demonstrated, so-called 'parentectomy' was recommended (Jackson, 2007, 166; Jackson, 2009, 145; Keirns, 2004). Pioneered by Denver allergist M. Murray Peshkin, during the 1940s, parentectomy involved removing a child from the 'asthmogenic' home, which would not only give children a break from their 'emotionally disordered homes', but also the physical allergens that might be responsible (Jackson, 2009, 145). Peshkin claimed that 99 per cent of children who were given residence at the Jewish National Home for Asthmatic Children experienced 'substantial or complete relief from asthma' (Jackson, 2009, 145). For other children, a parentectomy consisted of simply being sent away for school.

Many of Peshkin's fellow allergists also emphasised the role of psychodynamic factors in allergy. The popularity of such theories was due in part to broader interest in psychoanalysis and psychosomatic medicine during the period, but also the recalcitrance of food allergy and the mysterious nature of the immune system. New York paediatric allergist Harold A. Abramson (1899-1980), who is better known as an advocate of LSD therapy in alcoholism, for example, described in a 1948 paper how 'the immunologic model was necessary but not sufficient for the understanding of the allergic patient' (1948a, 98). The allergist needed to coordinate 'the basic sciences of physics and chemistry with the basic science of psychodynamics' in order to be effective. Much as Frederic Speer would do in 1958, Abramson also wrote a historical article which provided examples of how the 'medical ancestors' of current physicians acknowledged that psychological factors could trigger reactions such as asthma (1948b, 110).

Although there were a few allergists, including Ben Feingold, who recognised that psychological factors could be a *contributing*, rather than a primary, factor in allergic disease (1951), most food allergists rejected psychosomatic explanations of allergy. In return, most orthodox allergists doubted food allergists' claims about food allergies causing mental disturbances. Moreover, each side of the debate decried the treatment alternative offered by the other. Whereas orthodox allergists claimed that the elimination diets offered by food allergists lacked in nutrition and were inefficacious, food allergists and their allies claimed that overemphasising psychosomatic factors could lead to unnecessary psychiatric treatment, ranging from expensive psychotherapy to drugs. In cases where food allergies went undiagnosed, patients were even at risk of lobotomy, as psychiatrist Richard Mackarness argued (1975). Allergists M. Coleman Harris (1899-1996) and Norman Shure (b. 1907) went so far as to state that: 'In no other field of medicine are we aware of such sharp differences of opinion and so wide a variation in interpretation of material gleaned from study of the psychiatric factors in a single disease entity' (1956, 313).

Conclusion

When it came to children and behavioural problems, there was certainly a great deal that divided food allergists from those who favoured psychosomatic theories of allergy. On the one hand, psychosomatic-oriented allergists were driven by deduction, using psychoanalytic theory as a guiding principle and applying it to their clinical cases. Child patients – and their parents - played a passive role in diagnosis and, ultimately, it was they and their intimate familial relationships, rather than the external environment, that were the root cause of their symptoms. When such cases were described in journals such as *The Nervous Child* or

Psychosomatic Medicine, it was the deductive detective work of the expert clinician that took centre stage, rather than a miraculous recovery. On the other hand, food allergists took more of an inductive approach, basing their ideas on the accumulation of dozens or even hundreds of cases. Although concerns about food chemicals after 1945 meant that ecological theories loomed larger in their work, their starting point tended to be the patient. When such cases were described, theory usually took second stage to the dramatic recovery of the patient. Rather than being passive, food allergists' child patients – and their parents – took an active role in diagnosis and were largely responsible for avoiding the foods to which they were allergic. Without the patient's insights, the food allergist was powerless. Finally, it was not the patient's allergic body (or disturbed mind) that was blamed for their symptoms, it was the external and (again, after 1945) 'chemical' environment that was at fault and which needed to be adjusted (Randolph, 1962).

What food allergists and their psychosomatically-oriented colleagues did share, however, was the difficult task of trying to resolve often intractable, chronic health problems, namely mental illnesses and allergic disease, that other physicians had failed to treat effectively. Moreover, by the 1970s and 1980s, both approaches were on the wane. Psychosomatic explanations of allergy became less influential in lockstep with the gradual decline of psychoanalysis in the US more generally. At the same time food allergy became increasingly marginalised within mainstream allergy, with some questioning the very need for specialism in the subject. While the Feingold diet managed to attract popular interest, it failed to convince many physicians, who believed it was yet another food fad. Instead, clinicians and researchers turned to genetics and psychopharmacology for explanations of and treatments for childhood psychological problems. But with the recent escalation in rates of potentially

fatal peanut allergy, interest in the relationship between allergy and mental health has been rekindled once again.

Although fatal peanut allergy reactions were not completely unknown prior to the late 1980s, they were extremely rare, with one allergist noting in 1982 that he knew of not a single case on record (Fries). But during the late 1980s – and for reasons that remain a mystery – the rates of such fatal reactions began to increase rapidly (Evans et al, 1988). The emergence of peanut allergy not only meant that food allergy had to be treated more seriously by orthodox allergists, but it also put the relationship between the mind and allergy back into the spotlight. It did so in two ways. First, many patients with serious peanut allergies reported how even the mere odour of peanuts can elicit an anaphylactic reaction, a phenomenon that has long been recognised (Feinberg, 1953, 5). Others remarked how physical or emotional stress could make reactions worse. Such instances highlighted once again how the mind could play a role in either triggering or exacerbating allergic reactions. Second, researchers became interested in the mental health repercussions for both child patients and their parents of dealing with potentially fatal allergies over time (Lebovidge, et al, 2009; Roy and Roberts, 2011).

Concurrently, there was renewed interest in the possible effects synthetic food colours could have on childhood behaviour. Due in large part to parent associations such as FAUS, popular interest in the link between food additives and hyperactivity had always remained, and in the early 2000s, new studies based in the UK (where interest in the idea had remained comparatively strong) were commissioned by the Food Standards Agency after persistent lobbying from the public. This time the trials were much better designed and seemed to

indicate that there was something to Feingold's idea (Bateman et al, 2004; McCann et al, 2007). But while the public and even the food industry has begun to embrace that food colours (in particular) can trigger behavioural problems in some children, with companies, such as Marks and Spencer, voluntarily removing synthetic dyes from their products, mental health professionals and most physicians remain unconvinced in the link between food additives – and food more generally – and mental health (National Collaborating Centre for Mental Health, 2009, 229). While the public is becoming more interested in the link between allergy and mental illness, the mistrusting and blinkered approach of the past might continue to hamper researchers from giving it the attention it deserves.

Perhaps the best way to resolve the ongoing debates about allergy and mental health is simply to encourage researchers and clinicians to become more open-minded, especially in cases where the usual solutions are found wanting. As a small number of clinicians have recognised, it was possible that both approaches could be valid, perhaps even in the same individual. Rather than emphasising one explanation at the expense of the other, the history of mid-twentieth-century allergy suggests that more nuanced, imaginative and flexible thinking about both mental illness and allergy is necessary in order to help patients cope better with these difficult conditions, and to figure out why they both continue to be on the rise.

- Abramson, H. A. (1948a). The present status of allergy. *The Nervous Child*, 7, 86-101.
- Abramson, H. A. (1948b). Psychosomatic aspects of hay fever and asthma prior to 1900. *Annals of Allergy*, 6, 110-121.
- Alvarez, W. C. (1946). Puzzling 'nervous storms' due to food allergy. *Gastroenterology*, 7, 241-252.
- Bateman, B. et al (2004). The effects of a double-blinded, placebo-controlled, artificial food colourings and benzoate preservative challenge on hyperactivity in a general population sample of preschool children. *Archives of Disease in Childhood*, 89, 506-511.
- Belasco, W. (2006). *Appetite for change: how the counterculture took on the food industry*. Ithaca: Cornell University Press.
- Burton, R. (1621). *The Anatomy of Melancholy*. Oxford: John Lichfield and James Short.
- Carson, R. (1962). *Silent Spring*. Boston: Houghton Mifflin.
- Clarke, T. W. (1948). Neuroallergy in childhood. *New York State Medical Journal*, 48, 393-397.
- Clarke, T. W. (1950). The relation of allergy to character problems in children: A survey. *Annals of Allergy*, 8, 175-187.
- Coca, A. F. (1943). *Familial Nonreaginic Food-Allergy*. Springfield, IL: Charles C. Thomas.
- Collins, H. and Pinch, T. (2005). *Dr Golem: how to think about medicine*. Chicago: University of Chicago Press.
- Dickens, C. (1839). *Oliver Twist*. London: Richard Bentley.
- Dunbar, H. F. (1947). *Mind and body: psychosomatic medicine*. New York: Random House.
- Duke, W. W. (1925). *Allergy, asthma, hay fever, urticarial and allied manifestations of reaction*. London: Henry Kimpton.
- Evans, S. et al (1988). *Canadian Medical Association Journal*, 139, 231-232.

- Feinberg, S. M. (1953). *One man's food*. Chicago: Blue Cross Commission.
- Feingold, B. F. (1951). Treatment of allergic disease of the bronchi. *Journal of the American Medical Association*, 146, 341-344.
- Feingold, B. F. (1974). *Why your child is hyperactive*. New York: Random House.
- Feingold, B. F. and Feingold, H. (1979). *The Feingold cookbook for hyperactive children*. New York: Random House.
- Feingold, B. F. et al (1966). Psychological variables in allergic disease: a critical appraisal of methodology. *Journal of Allergy*, 38, 143-155.
- Fothergill, J. (1784). Remarks on that complaint commonly known under the name of the sick head-ach. *Medical Observations and Inquiries*, 6, 103-134.
- Freeman, E. H. et al (1967). Personality variables and allergic skin reactivity: a cross-validation study. *Psychosomatic Medicine*, 26, 312-322.
- French, T. M. and Alexander, F. (1941). *Psychogenic factors in bronchial asthma*. Menasha, WI: Banta.
- Fries, J. H. (1982). Peanuts: allergic and other untoward reactions. *Annals of Allergy*, 48, 220-226.
- Goltman, A. M. (1936). The mechanism of migraine. *Journal of Allergy*, 7, 351-355.
- Harrington, A. (1999). *The placebo effect: an interdisciplinary exploration*. Cambridge: Harvard University Press.
- Harris, M. C. and Shure, N. (1956). A study of behavioral patterns in asthmatic children. *Journal of Allergy*, 27, 312-323.
- Hoobler, B. R. (1916). Some early symptoms suggesting protein sensitization in infancy. *American Journal of Diseases of Children*, 12, 129-135.
- Jackson, M. (2006). *Allergy: the history of a modern malady*. London: Reaktion.

- Jackson, M. (2007). 'Allergy con amore': psychosomatic medicine and the 'asthmogenic home' in the mid-twentieth century'. in M. Jackson (ed.) *Health and the modern home* (pp. 153-174). London: Routledge.
- Jackson, M. (2009). *Asthma: the biography*. Oxford: Oxford University Press.
- Keirns, C. (2004). Short of breath: a social and intellectual history of asthma in the United States. Unpublished PhD dissertation, University of Pennsylvania.
- Laufer M. W. & Denhoff, E. (1957). Hyperkinetic behavior syndrome in children. *Journal of Pediatrics*, 50, 463-474.
- Laufer M. W., Denhoff, E. & Solomons G. (1957). Hyperkinetic impulse disorder in children. *Psychosomatic Medicine*, 19, 38-49.
- Lebovidge, J. S. et al (2009). Assessment of psychological distress among children and adolescents with food allergy. *Journal of Allergy and Clinical Immunology*, 124, 1282-1288.
- Levenstein, H. (1993). *Paradox of plenty: a social history of eating in modern America*. New York: Oxford University Press.
- Levenstein, H. (2012). *Fear of food: a history of why we worry about what we eat*. Chicago: University of Chicago Press.
- Lockey, S. D. (1948). Allergic reactions due to dyes in foods. Speech presented to the Pennsylvania Allergy Society.
- Mackarness, R. (1976). *Not all in the mind*. London: Pan Books.
- National Advisory Committee on Hyperkinesis and Food Additives (1980). *Final Report*. New York: Nutrition Foundation.
- National Collaborating Centre for Mental Health (2009). *Attention deficit hyperactivity disorder: diagnosis and management of ADHD in children, young people and adults*. London: British Psychological Society and Royal College of Psychiatrists.

- Piness, G. and Miller, H. (1925). Allergic manifestations in infancy and childhood. *Archives of Pediatrics*, 42, 557-562.
- Pirquet, C. (1906). Allergie. *Münchener Medizinische Wochenschrift*, 30, 1457-1458.
- Randolph, T. G. (1947). Allergy as a causative factor of fatigue, irritability, and behaviour problems of children. *Journal of Pediatrics*, 31, 560-572.
- Randolph, T. G. (1954). Allergic type reactions to chemical additives of foods and drugs. *Journal of Laboratory and Clinical Medicine*, 44, 910-914.
- Randolph, T. G. (1962). *Human ecology and susceptibility to the chemical environment*. Springfield, IL: Charles C. Thomas.
- Rapp, D. (1979). *Allergies and the hyperactive child*. New York: Fireside.
- Rowe, A. H. and Rowe, Jr., A. (1931). *Food allergy*. Springfield, IL: Charles C. Thomas.
- Roy, K. M. and Roberts, M. C. (2011). Peanut allergy in children. Relationship to health-related quality of life, anxiety, and parental stress. *Clinical Pediatrics*, 50, 1045-1051.
- Saul, L. J. (1946). The relations to the mother as seen in cases of allergy. *The Nervous Child*, 5, 332-336.
- Schneider, W. F. (1945). Psychiatric evaluation of the hyperkinetic child. *Journal of Pediatrics*, 26, 559-570.
- Shannon, W. R. (1922). Neuropathic manifestations in infants and children as a result of anaphylactic reaction to foods contained in their dietary. *American Journal of Diseases of Children*, 24, 89-94.
- Smith, M. (2011). *An alternative history of hyperactivity: food additives and the Feingold diet*. New Brunswick, NJ: Rutgers University Press.
- Smith, M. (2012). *Hyperactive: the controversial history of ADHD*. London: Reaktion.
- Smith, M. (2015). *Another person's poison: a history of food allergy*. New York: Columbia University Press.

- Speer, F. (1954). Allergic tension-fatigue syndrome in children. *Annals of Allergy*, 12, 168-171.
- Speer, F. (1958a). The allergic tension-fatigue syndrome in children. *International Archives of Allergy and Applied Immunology*, 12, 207-214.
- Speer, F. (1958b) Historical development of allergy of the nervous system. *Annals of Allergy*, 16, 14-20.
- Sperling, M. (1949). The role of the mother in psychosomatic disorders in children. *Psychosomatic Medicine*, 11, 377-386.
- Vaughan, W. T. (192). *Allergy: Strangest of All Maladies*. London: Hutchinson.
- Wittkower, E. (1938). Studies in hay-fever patients (the allergic personality). *Journal of Mental Science*, 84, 352-369.