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Multiple chemical sensitivity: pseudodisease in historical perspective

by Edward Shorter¹

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Multiple chemical sensitivity as a “disease” has emerged as a descendant of food allergy, which, in the 1920s and 1930s, was considered to be responsible for much human suffering and symptoms of disease. After the onmarch of the clinical ecological movement in the 1950s, interest has been focused on the environment, and concern about food allergies and chemical sensitivity has reached epidemic proportions. “Active hazardous waste sites” and “workers exposed to toxic chemicals” are at the top of the list of public worries. The public believes manufactured chemicals to be more dangerous than natural ones, although toxicologists regard the risks as equal. Originally, symptoms of patients were explained as “allergies”, but since the 1960s the concept of “chemical sensitivities” has become a big-time diagnosis. The ideas of the clinical ecologists diffused rapidly into the community aided by public media. Today organizations like “Chemical Victims” and “National Foundation for the Chemically Hypersensitive” have thousands of members. Although the diagnosis of the disease is very vague, suffering patients believe that the clinical ecologists can offer them something that traditional medicine cannot: sympathy, recognition of pain and suffering, a physical explanation for their suffering, and active participation in medical care. Ecologic medicine thus soared in the patients’ esteem, not just because of the content of the objective diagnoses that ecologic practitioners were able to supply, but because of the subjective nature of the doctor–patient relationship they were able to offer.

Key terms clinical ecology, food allergy, medical history, psychosomatic illness.

Pseudodisease is usually the result of a trade-off between medical supply and patient demand. Physicians, following a false scientific trail, supply the diagnosis of a non-existent disease. Patients, demanding disease labels that sound organic, seize the new diagnosis as the explanation of their vague and nonspecific symptoms. Thus both parties play a role in initiating the creation of a pseudodisease².

Momentum builds. The physician-advocates found specialty journals and societies and give interviews to the press, fostering a fringe medical culture. On the patients’ side, sufferers’ support groups avidly insist they have “a real disease that medicine does not recognize”, the apparent organicity of their complaints fortified by the ardor of their belief. Both parties bravely play out this psychodrama until the scientific evidence finally

becomes overwhelming that the pseudodisease does not in fact exist, and only then do they move on to the next pseudodisease.

In the last three decades we have seen this psychodrama played out around hypoglycemia in the 1960s and 1970s, chronic fatigue syndrome and fibrositis in the 1980s, and repetition strain injury and sick building syndrome in the 1990s. Yet, as the ardor for chronic fatigue syndrome and fibrositis fades in the present decade, the most popular pseudodisease to attract fringe physicians and chronically somatizing patients is multiple chemical sensitivity (MCS), also known as environmental illness and 20th century disease. This most recent chapter in the age-old negotiation between doctors and patients over pseudodisease is being written on the doctors’ side by the clinical ecology movement and on the patients’ side

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² See my two-volume history of psychosomatic illness (1, 2).

by organized pressure to ban the wearing of perfume in public places and to shun solvents and man-made chemicals.

MCS is thus the darling of the 1990s. How did it rise to world-class status? What was the impetus on the doctors' side? What social forces propelled the patients?

Doctors and multiple chemical sensitivity

Medical theorizing about sensitization to trace levels of chemicals is set in the framework of allergy, a term that Viennese pediatrician Clemens von Pirquet first coined in 1906 (3). For many years thereafter, the medical theories that emerged from Pirquet's concept focused on food allergies. From food allergies to chemical allergies seemed an easy lateral step. MCS was thus grafted onto an intellectual structure originally intended to explain the connection between food and illness.

Medical theorizing about food and illness has a long history antedating the discovery of allergy. The study of dietetics goes back to the Ancients. In the 19th and early 20th century, medicine churned with theories about how the diet affected nervous illness, asthma, and the like (4).

In Germany, the private sanatoriums for nervous and functional illness made dietetic cures a therapeutic mainstay, one popular guide to sanatoriums informing its readers that the special house diets were calculated to reduce "heart disease, dizziness, fainting, shortness of breath, asthma and difficulty walking" (5). This is the same population that 100 years later would be dubbed "the chemically sensitive", yet their malady was seen as nutritional in nature, its cure—and a highly successful one at that—addressing the diet. Yet these particular dietetic cures, featuring vegetarianism or low fluid-intake, turned out not to have a future because their advocates could never discover a mechanism. The dietetic cures of the 19th century were overturned by science.

What made Pirquet's concept of allergy so appealing to physicians intent upon linking diet to illness was its provision of an immunologic mechanism. With the notion of allergy, one could actually point to a biochemical process and claim to be speaking with the voice of science. It was in the United States in particular that medical notions of food allergies had enormous resonance.

The first scientific study of food allergy came from the pen of pediatrician Oscar Schloss in 1912 (6), and early work on "alimentary anaphylaxis" tended to be dominated by American names, even though it was a Frenchman, Victor Henri Hutinel, who coined the term in 1908 (7). Then in the early 1920s vague and nonspe-

cific symptoms began to be attributed to food allergies. In 1921, for example, William W Duke, a physician in Kansas City known as the discoverer of "physical allergies", tried to make the case for food allergy as a cause of abdominal pain in persons who otherwise had no allergic symptoms or family history of allergy. He argued that such pains were asthma-equivalents, and every bit as dangerous: "Food allergy had acute appendicitis as a sequel in two cases [p 164]" he observed (8).³ Thus a whiff of fringe medicine was already in the air.

The physician who inserted the notion of food allergies most firmly into the nation's medical consciousness was Albert H Rowe of Oakland, California, a longtime staff member of the University of California at San Francisco. In 1928 Rowe argued in the *Journal of the American Medical Association* that food allergies in adults had been vastly underdiagnosed and could be detected with the aid of elimination diets. Epilepsy, he suggested, was probably caused by food allergies because its symptoms closely resembled those of migraine headache, a disorder he believed almost certainly the result of food allergies. Among other manifestations of food allergy were painful menses, hypotension, and, especially in young people, chronic fatigue ("asthenia"). He urged his colleagues not to rely on skin tests in diagnosing allergy because so many of the patients he deemed allergic failed to respond to them (10). Rowe's views became widely known in a big allergy textbook he published in 1932 (11).

During the 1930s, work of this caliber flourished, linking supposed food allergies to all possible symptoms on the basis of anecdotes and post hoc—propter hoc arguments on the order of, if the patient spit up after eating pancakes then he must be allergic to them. In 1932, for example, Herbert Rinkel, then of Oklahoma City, a physician later acknowledged as a national authority on food allergies, concluded that migrainous headaches caused by food sensitivities were similar to hereditary migraine (12, 13). Rinkel scorned skin-testing and depended on the patient's history for the diagnosis of allergies. He believed that over 60% of the American population suffered food allergies (13). Rinkel's name later became an icon among the chemically sensitive.

This fledgling food-allergy movement managed to capture for itself one genuinely distinguished scientific figure, Arthur F Coca. Born in 1875 and graduated from the University of Pennsylvania in 1900 as an MD, Coca had studied in Heidelberg. In 1915, because of the suspension of the *Zeitschrift fur Immunitätsforschung* during the First World War, he founded the *Journal of Immunology*. Four years later Coca joined Robert Cooke's newly-founded Division of Immunology at Cornell Medical College, and in 1923 he and Cooke coined the term "atopy". Coca pioneered the purification

³ Duke got away from food allergies, steering towards even vaguer sources to "sensitivity" (9).

of allergenic extracts, and it is fair to say that until the late 1930s he represented a lustrous scientific figure in a field full of quackery (14, 15).

But then Coca ran off the rails. In the late 1930s he became attracted to the quicksand of food allergies. Shunning skin testing, he acquired the view that acceleration in the blood pressure after eating was the best way of diagnosing allergies. The range of symptoms in food allergies, according to Coca, embraced almost every conceivable presentation of illness, similar in this regard to Charcot's hysteria in the 1880s and multiple chemical sensitivities in the 1990s. He publicized these views, drawing liberally upon his own case, in his 1943 book *Familial Nonreaginic Food-Allergy* (16). [His own symptoms appeared under patient "A. F. C.", (16, p 24).] In the preface of the second edition in 1945, Coca asserted that the mechanism of food allergies was "idioblapsis", on which he continued to insist for the rest of his life, which he spent mainly as the medical director of Lederle Laboratories. Coca's views on idioblapsis were a scientific embarrassment, ignored by his biographers. Yet his authority lent credibility to the concept that food allergies were responsible for much of the misery of humankind.

Present at a lecture at the University of Michigan that Coca gave in 1933 was the young medical student Theron Randolph. Randolph, responsible for launching the clinical ecology movement and the diagnosis of multiple chemical sensitivity, is probably the central figure in this story. Inspired by Coca, Randolph went into the allergies field, and for a while held staff appointments at several respectable institutions. Yet his views became increasingly marginal to mainstream medicine. In 1945 Randolph insisted that chronic fatigue, contrary to prevailing views that it was psychogenic, was usually the result of food allergies. In a survey he did at the University of Michigan, 52% of the student nurses had the symptoms of both allergy and fatigue. Hence the relationship was clear (17).

It is interesting to note that many of these physicians complained themselves of allergies. Rowe was said to be "corn-sensitive" (18, p 65). Rinkel too believed that he had a corn allergy and that he was allergic to eggs. He had once collapsed after eating a piece of cake (18, p 44 & 96). Just as Randolph started in private practice in Chicago in 1944, Rinkel dropped by his office and helped him diagnose his allergies to corn, wheat, and other cereal grains. [Randolph had known previously of his sensitivity to maple and peanut (18, p 27)].

Coca became a kind of bizarre hypochondriac, refusing, for example, to visit colleagues in their homes because of his allergies to food cooked in aluminum pots

(19). At scientific meetings he would carry his lunch around with him in a box. Before Coca would agree to meet Randolph, he stipulated that Randolph must stop smoking for at least 10 days and have all his clothes cleaned. When Randolph finally appeared for the meeting, Coca glared suspiciously at a copy of the *New York Times* that lay on the seat of Randolph's car (allergy to printers' ink) (18, p 92).

Yet, not only were the allergists themselves allergic—one might understand an allergy-plagued physician choosing the field—many of their wives were allergic as well. It was apparently Mrs Coca who got Coca into the food-allergies field. She was preoccupied with taking her own pulse and apparently implanted in Coca's mind the idioblapsis idea (18, p 92). Randolph met his wife Tudy as a patient who had come to him with a myriad of hypochondrial complaints that included periodic fainting and hypersensitivity to utility gas (18, p 76).

When the Randolphs visited the Cocas, it was truly a battle of the titans to see which illness-belief system would triumph, for Mrs Coca apparently was not at all chemically sensitive, but dust sensitive she was. The Coca's had sprayed all their carpets, drapes and furniture with a solvent called "Dust-Seal" in order to keep down the particles. Randolph had thoughtfully brought along for the visit a film he had commissioned about beet-induced psychosis. "Tudy watched the 40 minute motion picture sitting on the carpet and leaning up against an upholstered chair. I noticed," said Randolph, "that she was nodding and dozey when the lights were turned on at the end of the film. Shortly thereafter she lapsed into an unconscious stupor from which she could not be aroused, to the consternation of Dr. Coca [p 68]." Randolph carried his wife upstairs to a bedroom and administered intravenously a solution of sodium bicarbonate—a supposed neutralizer—whereupon Tudy revived (18, p 68). Tudy's magic had triumphed over Mrs Coca's.

It is thus evident that American allergy in the early days was immersed in a cauldron of suggestion, where researchers' subjective impressions of their own and their families' symptoms counted as hard scientific data. For this reason, American allergy research cut a low international profile. Schadewaldt, in his great international history of allergy work, pays little attention to any of the American food allergists save Coca.⁴ Although food allergies do indeed exist, these medical writers had ballooned the concept into a caricature to brandish at the population, terrifying millions into fear of their food in the belief that the authority of science stood behind such views. It was onto this tree of allergies that the twig of multiple chemical sensitivity was grafted.

⁴ Schadewaldt gives one passing reference to Randolph, a few lines to Rowe's elimination diet, and no attention to Rinkel (7, index of vol. 4).

The rise of multiple chemical sensitivity

Even before Randolph, the early food allergists had speculated about the possibility of chemical allergies. American allergist Warren T Vaughan, known for cranky ideas about the role of nasal surgery and "focal infection", raised the alarm in 1939 about gasoline vapors and dust from dictaphone cylinders (20). Coca in his 1943 book added, almost as a throwaway line, that "oily substances, such as gasoline and mineral oil", as well as "metals-aluminum", could play a role in allergies. One of his female patients believed that she suffered from "lipstick and some cosmetic powders [p 80]" (16). First to return to this subject after World War II were Rinkel and Randolph, now writing on food allergies as a team. "The possibility of allergic reactions to simple chemical compounds remains to be fully explored," they said, citing aspirin and chloramine (a mouthwash) as sources of "acute allergic reactions in individuals specifically sensitized [p 172]" (21).

At this point the early writers on chemicals were still talking about "allergies". Yet Rowe, Rinkel, Randolph, and the others rejected immunologic theories of allergy as too narrow (and also inconvenient, providing means by which the writers could be proved wrong). What Randolph in particular contributed was (i) shifting the dialogue from allergies to "sensitivities," where the risk of scientific disproof was even less: who could prove that one was subjectively not "sensitive" to something?; (ii) Randolph built an organization to carry forth his doctrine. As the father of the clinical ecology movement he was ideally situated to elevate chemical sensitivities into a big-time diagnosis.

The story began in 1947 with a 41-year-old female patient, a physician's wife (it was in fact Mrs Randolph) who was subject to fatigue, depression, and intermittent fainting. By April 1951 he had accumulated 50 single-spaced pages of notes on her and as he reread the chart a light flashed in his mind. "For instance, each time that she drove by automobile from southern Michigan to Chicago, she became acutely ill in passing through the industrially polluted areas of northwestern Indiana and the south side of Metropolitan Chicago." Only a stay of several days "on the top floor of the tallest hotel in Chicago", where she was able to look down on the pollution, permitted her to regain her composure sufficiently to keep her appointments with Randolph (18, pp 73-74). The list of "contactants" and "inhalants" to which she was supposedly sensitive ranged from nail polish to cedar chests. Suddenly things were

starting to make sense. Randolph reported on her case in November 1952 at a meeting of the Central Society for Clinical Research (22).

Yet Randolph's views on chemical sensitivity were not accepted immediately by the allergy community. As he told of his work in 1954 at the annual meeting of the American College of Allergists there were smiles and snickers in the audience. "I then mentioned that in my experience, the gas kitchen range was the most hazardous device in the American home and that I had already removed several hundred of them ... This brought down the house [p 77]" (18).

In 1958 Randolph used the term "ecology" for the first time publicly (13). He was now blanketing such journals as the *Annals of Allergy* with articles on chemical sensitivity, and his 1962 book *Human Ecology and Susceptibility to the Chemical Environment*, which reprinted some of these articles, is considered the founding document of the clinical ecology movement (24). In 1962 Randolph announced for the first time that "indoor chemical air pollution" could be as serious as outdoor pollution. He indicted "sponge rubber padding, bedding and upholstery" and other household articles. Prophetically he remarked that, "Finding and avoiding these home environmental incitants ... is opening a new experimentally oriented medical approach to many chronic illnesses." By this time he had ordered that gas kitchen ranges be removed from the homes of over 800 of his patients (25).

In view of the skeptical reception of Randolph's ideas in the mainline medical community, he and several like-minded physicians decided to form their own society. At a 1965 meeting in Las Vegas of the College of Allergists, the rebels organized their breakaway group. In April 1966 the Society for Clinical Ecology held its first meeting at the Palmer House in Chicago, Randolph declining the presidency because he was considered "too controversial". In 1965 as well, a Clinical Ecology Study Club, of which Randolph was a member, began meeting in Evanston, a suburb of Chicago. Two years later the club disbanded to become a committee of the Society for Clinical Ecology (26). The clinical ecology movement was thus launched, its focus being chemical sensitivities rather than food allergies.⁵ Yet the continuity with the old food allergists was clear; the third meeting of the study group late in 1965 at the Palmer House was organized as the "Rinkel Memorial Program [p 745]" (26).

Within medicine, growth was rapid. The new society went from the five founding members in 1965 to 137

5 Although the environmental sensitivity movement later turned its back on Randolph, his influence continued to resonate through the literature. Relying upon his work, a committee of the Ontario Government on "Environmental Hypersensitivity Disorders" recommended in 1985 the establishment of an "environmental unit" in a public hospital of the province and urged that provincial public health nurses be instructed "to function as a source of current information on environmental illness in general and on environmental hypersensitivity in particular".

physicians by 1973 (26, p 748). Physician-sympathizers began turning up at mainline medical meetings offering papers with such titles as "Cerebral Manifestations of Hypersensitivity to the Chemical Environment" (28). Thus the title of a contribution to a 1967 congress on allergology, in which the patient, a 10-year-old girl, acted goofily after sniffing "volatile chemical excitants", returning then to normality after a "neutralizing dose" of ethanol. Such research was eerily reminiscent of experiments early in the 19th century on "magnetic energy" (1, p 136—150).

In other ways too practitioners of the new discipline strove to make themselves more sympathetic in the eyes of mainline medicine. Uncomfortable with the term "clinical ecology", in 1984 the Society changed its name to the American Academy of Environmental Medicine (AAEM). This change was done against Randolph's vehement protest (Randolph, personal communication). By 1995 the AAEM numbered 450 members. So much had the field blossomed, however, that by 1995 the AAEM was vastly overshadowed by other organizations in the clinical ecology field, such as the National Center for Environmental Health Strategies, founded in 1986 and having a membership of over 2000 in 1995 (29).

Similarly, the ideas of the clinical ecologists diffused rapidly into the community at large as the press picked them up. In 1968 a patients' group who called themselves "Chemical Victims" changed their name to the Human Ecology Study Group (18, p 175). By 1995, the National Foundation for the Chemically Hypersensitive had 5000 members and the Human Ecology Action League 7000. What permitted these ideas to radiate beyond a small circle of cranky physicians to the general public? Why would patients have found notions of environmental toxicity, chemical sensitivity, and being "allergic to everything" so appealing?

Patients and multiple chemical sensitivity

Despite the presence of massive chemical pollution in previous eras, beliefs in MCS and the like gained currency only after the 1960s. Chronic pain, chronic fatigue, and other symptoms attributed to sensitivity to chemicals have been familiar complaints for decades. Yet before

the 1960s patients' illness attributions in explaining such symptoms were very different.

Consider the historic implausibility of MCS. The world has been awash for a hundred years in chemicals supposedly responsible for this "new" disease. Formaldehyde, indicted in 1975 as a scourge of the chemically sensitive, has been around since its discovery in 1867 (30). The landscape of the industrial revolution was massively polluted through coal-tar products, natural gas, and the spill-offs of the chemical industry. The skies of the industrial cities of England and the continent were black with the hydrocarbon fragments of coal combustion. Here is a memoir of life in the English industrial town of Salford in the 1920s: "Over one quarter of a mile [from our home] industry stood represented by a dying brickworks and an iron foundry. Several gasholders on the south side polluted the air, sometimes for days together. Little would grow; even the valiant aspidistra pined." The author's mother once tried a window box for flowers in the backyard. "A few blooms struggled up then collapsed. 'So!' said my mother ... 'You can rear a child, it seems, on coal gas, but it does for [kills] geraniums!' [p 4]" (31).⁶ If a disease called multiple chemical sensitivity existed, these people would have had it in spades. They would all have suffered chronic headaches and fainting fits, have been unable to rise in the morning because of chronic fatigue, and unable to remember the football scores because of cognitive changes. Yet except for tuberculosis they were healthy as horses, did not miss work because of mysterious medically unexplained disabilities, and behaved generally as the salt of the earth rather than as a cornucopia of unending complaints.

In the 19th century there were the chronically miserable: middle-class females with vague nervous complaints who would take to their beds and often remain for years at a time. Known as "sofa cases", or "femmes à chaise longue", these middle-class women reported complaints very similar to those of MCS victims of today. They were too weary to arise from bed. They had phantom pains that darted about the body, often necessitating the use of giant bolsters to protect against "spinal irritation" as their servants took them for carriage rides. And they had fixed illness beliefs about uterine fibroids and the state of their ovaries as the source of their sufferings.⁷ Yet it never crossed their minds to complain of exposure

⁶ It is possible that exposure of the population to synthetic chemicals has increased since the Second World War. Yet regions where exposure is greater seem to have fewer allergies than less-exposed regions. The rate of allergies in the former East Germany, site of such notorious chemical complexes as Bitterfeld, is reported to be much less than in West Germany, where chemical pollution has been under control for decades (32).

⁷ For examples of such sofa cases see the memoirs of Harriet Martineau, *Autobiography* (written 1855, published 1877), 2 vols. (reprint London: Virago, 1983); *Martineau, Life in the Sick-Room: Essays* (London: Moxon, 1844; it was published anonymously). See also Margaret A. Cleaves, *The Autobiography of a Neurasthene As Told by One of Them* (Boston: Badger, 1910).

to chemicals and toxins though they lived in a world saturated with them (1, pp 44–94).

Perfumes and other challenges to the chemically sensitive today were adored in the 19th century and widely used. Perfume was associated with positive, forward-looking forces rather than as representing a necessary evil. Industry in those days was seen as progressive. The Parisian parfumeur of fiction Des Esseintes brought out a perfume labeled, “Le Soufle des Fabriques”—“The Breath of the Factory” in the 1880s (33). To be sure, there were occasional neurasthenics, such as Marcel Proust, who feared the odor of perfume (34, 35). Yet they represented isolated persons in a great torrent of nervousity that had entirely different illness attributions.

In the 1920s and after, the public participated in the rising hysteria surrounding food allergies. Yet only after the 1960s did concerns about food allergies and chemical sensitivities reach epidemic proportions. Why? Here one must distinguish between manifest and latent causes. Manifest causes are found at the level of public concern about the environment and exposure to chemicals at toxic doses. Latent causes concern such matters as the breakdown of the family and the doctor–patient relationship.

Realistically or not, public worry about the environment increased enormously after the 1960s. A 1989 poll conducted by the Roper Organization for the United States Environmental Protection Agency found that 62% of people put “active hazardous waste sites” and “workers exposed to toxic chemicals” (60%) at the top of the list of public worries (36, p 304). In one Canadian survey, two-thirds of the respondents agreed that manufactured chemicals could be more dangerous than natural ones (in contrast, a group of toxicologists believed that the risks were equal) (37). At an ideational level then, the public became vulnerable to notions of occult toxicity, danger not just from toxicologic doses but from trace exposure to a chemical. There was no doubt that drinking gasoline was dangerous, but even whiffing it was risky.

Massive social change left people vulnerable as well. In the 1960s and after, a great transformation occurred in the nature of family life, a shift from the modern to the postmodern family (38). Families became smaller and more fragmented. This change affected physical perceptions in the following way: In previous times, people who became symptomatic could discuss their sensations with other family members in a teeming household and be reassured. Tiredness or pain could be placed in a calming context of generations of experience. Feedback loops were available for discussion, illuminating complaints in the light of generations of medicinal folklore: “The pain in the tummy, your grandfather had that for many years and he lived to 87”.

In the reduced postmodern household, by contrast, these feedback loops are often not available. Over half the households in Manhattan contain one person only.

When people in such households arise in the morning they have often only the television with which they can discuss the meaning of puzzling physical sensations. And it will assure them they have chronic fatigue syndrome or multiple chemical sensitivity. The destruction of these intergenerational feedback loops thus increases the tendency of isolated persons to be somatically hypervigilant and to misinterpret bodily sensations (1, p 322).

Another latent factor concerns change in the nature of the doctor–patient relationship. Postmodern medicine is often perceived as less caring, postmodern physicians being more arrogant and remote. Patients remember fondly “the good old family doc” of yore, willing to call daily and dispense large amounts of psychological support along with useless powders—because psychological support was really all that he had to offer in the days before penicillin (39). Patients who resent the perceived remoteness of the postmodern doctor do seek out alternative healers who will provide counseling and personal attentiveness. The clinical ecologists themselves are very aware of this need and cater to it: “To be effective”, wrote one practitioner, “the clinical ecologist must be prepared to devote a lot of time and effort and remain quite close to the patient who is highly chemically susceptible [p 453]” (40).

This greater willingness of clinical ecologists to spend time with their patients is grudgingly recognized by mainline physicians. As a study of 26 patients with “20th century disease” concluded, “The study subjects clearly believed that their clinical ecologists had something to offer them that others did not: sympathy, recognition of pain and suffering, a physical explanation for their suffering, and active participation in medical care [p 3170]” (41). Ecologic medicine thus soared in patients’ esteem not just because of the content of the objective diagnoses that ecologic practitioners were able to supply, but because of the subjective nature of the doctor–patient relationship they were able to offer.

A final circumstance explaining patient attachment to the world of MCS illness-beliefs hovers between the latent and the manifest; it is the role of the media. Without intense publicity, MCS would never have made its way into the world but rather would have remained a marginal illness attribution on the order of chronic brucellosis in the 1930s or “colitis” among 19th-century Parisian elites. Students of risk analysis have found that the public’s perception of risk is almost entirely determined by the mass media (42). There is no doubt that late in the 1980s MCS started to become a media darling, picking up the torch from chronic fatigue syndrome, of which editors had become weary as a result of overhyping. “When Life is Toxic...” howled the *New York Times Magazine* in 1990 (43). “Doctors Tell Them It’s All in Their Heads. But Sufferers [Know Better]”, shrilled a magazine in 1991 addressed at environmental-

ists (44). So insidious was the new environmental illness that, according to the *Seattle Times* in 1994, even a specially constructed "ecology house" had failed to meet the "smell test" of the chemically-sensitive tenants for whom it had been built (45). Thus the media have staged a psychocircus of suggestion around MCS, all the while featuring such sister diagnoses as sick building syndrome and Gulf War syndrome in the circus's other rings.

How long will an illness like MCS rage epidemically? The real answer is that it will last until the editors become bored with it and move on to the next disease of fashion. If past experience with fibrositis, chronic fatigue syndrome and food allergies is any guide, media fatigue represents a combination of (i) the arrival of new diagnoses to replace the old and (ii) the editors' gathering sense of unease that the new "disease" may not be organic in nature at all but yet another form of hysteria.

Currently there is no doubt that scientific opinion has turned decisively against MCS (46) and that the end is not far out of sight. For a disease-of-the-month, a series of weighty scientific articles in respected medical journals can have a chilling effect. Neurasthenia declined quickly after such a cold bath, becoming transformed from a coveted organic medical diagnosis to a feared psychiatric diagnosis (47).

In a kind of nosologic relentlessness, both patients and doctors are moved to push on and discover new pseudodiseases as old ones are discredited. Patients are pushed on by the need of the unconscious mind to stay abreast of science, to seek out disease labels and symptoms continually that their physicians will find credible. [Given that no patient ever wants to be told, "It's all in your head".] Fringe physicians are pushed on, perhaps by the same psychological forces that attracted them to fringe medicine in the first place or perhaps by the economic need to carve out market niches for themselves. Although ecologic doctors and patients both profess skepticism of "academic" or "allopathic" medicine, believing themselves to be in the possession of truths denied to their narrow-minded official colleagues, the true-believers too are ultimately sensitive to the weight of evidence. All the great psychosomatic illness attributions of the past—from ovarian hysteria to hypoglycemia—had to be abandoned once the preponderance of evidence against them made their proponents look ludicrous. In the kind of fringe medicine that MCS represents, both doctors and patients will ultimately respond to the onmarch of science as well, though not quite in the way they might now think.

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