



Pure Facts

October 1984

Vo. 8, No. 8

What Lies Ahead For Additive Sensitivity Research

When you eat, smell, or touch something to which you are sensitive, two interacting influences go to work—the environment and your genes.

Currently, scientific research on additives and hyperactivity/learning disability has focused on the environment (what has been ingested) rather than on the genetic make-up of the sensitive individual.

But, according to Eve Marder, Assistant Professor of Biology at Brandeis University, the Feingold studies of tomorrow may be based upon genetic lineage studies. Dr. Marder, who addressed the national Feingold conference, believes future studies could identify the specific gene(s) involved, and the interaction it produces in the sensitive individual.

Scientists may stop arguing about whether putting red dye in a cookie is harmful, and get to the real question of who is sensitive and why.

How Dye Affects Nerve and Muscle

There are about 10 billion nerve cells in the human brain. These nerve cells communicate with other nerve cells and muscles by electrical and chemical signals. The electrical properties of a nerve cell are similar to a battery. If you connect a battery to a light bulb, when you close the switch, current flows and lights the light bulb.

In the body, specific proteins in the membrane act as electrical switches; current flows across the cell membrane and electrical impulses (action potentials) are produced. These electrical impulses, in turn, cause the release of chemical substances, called neurotransmitters, from the nerve cell. The neurotransmitter then travels to another nerve cell or to a muscle.

In the laboratory, it is possible to use very fine electrodes to record the electrical events in these processes, and then study the actions of drugs and dyes on these processes.

In the studies carried out in Dr. Eve Marder's lab, supported by a \$50,000 grant from the Feingold Foundation, Erythrocin B (red dye #3) and light changed the electrical properties of single nerve cells and affected the way they released neurotransmitters.

Scientists may stop arguing about whether putting red dye in a cookie is harmful, and get to the real question of who is sensitive and why.

Dr. Marder attributed these results to a process called photodynamic damage, in which light absorbed by the dye causes damage to the tissue in which the dye is located. However, Dr. Marder also noted that other published studies in which animals were fed high concentrations of Erythrocin found relatively little toxic effects of the dye.

Dr. Marder cautioned that relatively little is known about how such dyes are metabolized and excreted in animals or humans. Dr. Marder notes, "The interaction between light and dye poses extremely interesting questions for future research."

Try a Halloween Video Party

It's true that as public awareness grows, life on the Feingold Program gets easier all the time. But once a year, we face the challenge of Halloween, with too many tricks in the "treats" offered to our children.

If you own or rent a video cassette recorder, there is an easy way to put together a party for your children and their friends.

Several days before Halloween, check out one or more films that are scary enough for the occasion, but are appropriate for the age group (Casper for the little folks, and sci-fi for the teens).

It costs a little more to rent the films a few days in advance, but this will ensure that you will have your tape of *Close Encounters* (or whatever) for the big night.

Your film can suggest a theme for costumes, or guests can each do their own thing.

Serve popcorn and drinks (7-UP or fruit juice blended with sparkling water) during the film, followed by an after-theatre treat of delicious Spicy Carrot Cake and hot "cider" (made with pear juice).

Contributed by Jane Hersey



Photodynamics—Light Plus Dye

(Taken from *Why Your Child is Hyperactive*, By Ben F. Feingold, M.D.)

Under a partial grant from the National Institutes of Health and the National Institute of Allergy and Infectious Diseases, entomologists Tim P. Yoho, Linda Butler, and Joseph E. Weaver fed dye additives to adult house flies.

In his paper on the experiment at the Division of Plant Sciences-Entomology, Yoho wrote in 1973: "The wide usage of dye additives in foods, drugs, and cosmetics could result in photodynamic injury to man. The potential danger of certain dyes sanctioned by the FDA for use in foods, drugs, and/or cosmetics became apparent during a study which utilized the house fly as a test animal."

The phenomenon of photodynamic action was discovered in 1904 by two German scientists, Jodlbauer and Von Tappeiner. The term describes the usually destructive effects on biological systems when a dye of pigment interacts with normally harmless visible light.

The researchers fed flies of both sexes with a milk-sugar diet containing concentrations of the sanctioned dyes, in both dry and liquid forms. Caged, the flies ate in darkness.

The wide usage of dye additives in foods, drugs, and cosmetics could result in photodynamic injury to man.

When exposed to sunlight, or to artificial light from fluorescent tubes, the flies underwent periods of "hyperactivity, characterized by sporadic bursts of flying and prolonged antennal and wing cleaning movements, followed by periods of quiescence," followed by death.

The project has a bearing on the development of pesticides, but the dyes utilized have nothing to do with pest riddance.

"In flies fed the highest concentration of the most effective dyes, loss of coordination occurred within 5 to 10 minutes, and mortality within 1 hour." No mortality occurred in dye-fed animals in the absence of light.

For comparison purposes, flies fed the milk-sugar diet not containing the dyes buzzed on and lived out their cycle, in either natural or artificial light.

The dye apparently causing the adverse reaction in flies was FD&C Red 3, Erythrocine. It is provisionally sanctioned for human consumption.

Yoho concluded his paper with: "The fact that photodynamic effects have been observed in many animal systems, including man, indicates the need for more careful scrutiny of dye additives in commercial products."

When Dad Won't Cooperate

New Feingold moms occasionally report that their greatest problem is not in winning the cooperation of their children, but in convincing their husband to go along with the diet. We have no foolproof answers, but here are a few suggestions.

Many dads feel very defensive about their child ("There's nothing wrong with *my kid*" syndrome). Attending an introductory meeting can be valuable, as he will see the problem rests not with his child, but with the child's diet.

If your physician is receptive to the Feingold Program, his or her recommendation may convince a reluctant spouse to give it a try.

Plan to have plenty of safe treat foods on hand at the beginning. While we certainly don't advocate junk food—even "natural" junk food—winning your family's cooperation is vital. You can work on improving nutrition later.

Make as many "little" changes in your shopping list as you can. Someone



may notice if you change the brand of bread, but who cares what brand of vegetable oil you use?

Don't take away Dad's coffee, beer, or other "grown-up" beverages that the children don't care about anyway. And remind sports-loving dads that improved coordination frequently results from an additive-free diet.

If all else fails, you can challenge your reluctant relative to prove that the Feingold Program does *not* work! See if he will agree to strictly support your efforts for a set time (2 or 3 weeks minimum, but the longer the better). Be sure to follow your foodlist to the letter. Check your new member information for the name of a diet assistant, or contact your local association. Don't be shy about calling your diet assistant for help, or even just moral support.

Many good ideas come from workshops; see if your local association has any scheduled.

Safety Colors Attitudes About Food Colors

by Marion Burros of the New York Times

In the days when women went to tea instead of work, my mother told me to meet her at a League of Women Voters meeting after I got out of school. The only thing I remember about the meeting were the tea sandwiches. And then only the blue ones.

The hostess had used her deck-of-cards cookie cutters—all the best-run kitchens has a set—to make sandwiches out of white bread shaped like clubs, diamonds, hearts, and spades. Instead of just flavoring the standard cream cheese topping with a little jelly or chives or pimento, this hostess decided to go one step further, coloring her little open-faced sandwiches canary yellow, baby pink, grass green and royal blue.

Although they all looked like what we would now call plastic food (in those days there was no plastic), only the blue ones seemed grossly unappetizing to me, then 10 years old. Long before I understood that the appearance of food was almost as important as its taste, I knew that blue

cream cheese did not look good enough to eat.

That food must appeal to the eye before we are willing to taste it is something that most of us seem to learn by osmosis. And, in some ways, children are more finicky than adults. If food doesn't look good, they won't even try it. But what appeals to us is almost entirely a matter of acculturation. It changes from country to country, and even from generation to generation in the same country.

Which brings me back to blue cream cheese. And to holly red maraschino cherries, green pistachio ice cream, and all the other foods that are dyed today in the belief that people won't buy them otherwise. Perhaps many of them won't. But 50 years ago, they would not have known what to make of orange skins that had been dyed deep orange or strawberry ice cream that had been colored crimson.

But just as the last two generations instinctively learned to love the intense colors of artificial foods and

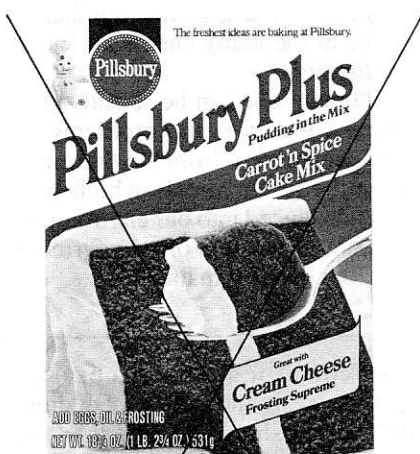
even natural foods that have been dyed, some of us have played the maverick and have been learning to avoid them. We have factored in another bit of information that has colored our thinking about artificial colors. The safety factor. A cloud of suspicion has been hanging over artificial colors for more than a decade. And today there are enough of us who consciously avoid artificially colored foods so that some manufacturers have found it worth their while to promote its absence in their products.

It's nice to know that the best ice creams do not use artificial colors. California oranges are never dyed; genuine whole-grain breads do not need caramel coloring and real fruit juice will never have the intense color of its fake counterparts.

Sometimes esthetics and safety are synonymous. And those of us who care about such things are delighted with the turn of events.

© New York Times News Service
From the Allentown Call 11/9/83

The Choice Is Yours



Ingredients: Sugar, enriched bleached flour [bleached flour, niacin, iron, thiamine mononitrate (vitamin B1), riboflavin (vitamin B2)], hydrogenated soybean oil and/or hydrogenated animal fat (beef fat or lard) with BHA, BHT and citric acid added to protect flavor, dried carrots (color protected with sodium sulfite and sodium bisulfite), dextrose, modified tapioca starch, dried molasses, baking powder (baking soda, sodium acid pyrophosphate, monocalcium phosphate), propylene glycol monoesters, spice, mono- and diglycerides, salt, soy flour, artificial color and FD&C yellow no. 5, corn starch, sodium phosphate, cellulose gum, calcium acetate, xanthan gum, polysorbate 60, lecithin.

Fanny's Spicy Carrot Cake

from *The Feingold Cookbook*

1½ cups pure vegetable oil
2½ cups sugar
4 eggs, separated
5 tablespoons very hot water
2½ cups all-purpose flour
1½ teaspoons baking powder
½ teaspoon baking soda
¼ teaspoon salt
1 teaspoon ground cinnamon
1½ cups peeled, grated, and firmly packed carrots
1 cup chopped walnuts

Preheat oven to 350°. Grease and flour a large angel-food cake pan.

In a large bowl of an electric mixer, beat the oil and sugar at medium speed until well mixed. Beat in the egg yolks one at a time, beating well after each addition. Beat in the water.

In a separate bowl, sift together the flour, baking powder, baking soda,

salt, and cinnamon. Add this to the egg mixture and beat well. Stir in the grated carrots and chopped nuts; mix well. Beat the egg whites to a soft peak, and fold them into the batter.

Pour the batter into the prepared pan, and bake for 70 minutes. Let cool for 15 minutes, then turn out onto a plate to cool for 5 minutes more before frosting.

Cream Cheese Frosting

2 packages (3 oz each) cream cheese, softened
6 tablespoons butter, softened
1 teaspoon vanilla
2 cups sifted confectioner's sugar

In a small bowl beat all of the ingredients until smooth.

Add a teaspoon of milk if needed to thin down.

Feingold Program Helps "Retarded" Child

Dear Feingold Association,

My 5-year-old adopted daughter was diagnosed as hyperactive, as well as retarded and having other health problems. When we brought her home last year we placed her on the Feingold Diet, even though her doctors told us it was ineffective in most cases and thought we were wasting our time. Well, within a month, the results were amazing. The screaming and biting stopped. She soon learned to sit at the table for meals and sleep through the night. She began doing chores around the house and learning a few simple words. We could see that our "retarded" child was quite capable of learning!

I began the round of doctors to deal with her other health problems. The eye doctor took 1½ hours (with me holding her down), but his exam showed astigmatism in both eyes, as well as the amblyopia we already

knew she had. Other exams showed that repeated ear infections had left fluid built up in her ears. In effect, she could not see or hear well enough to function!

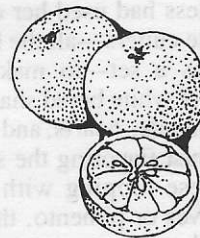
Repeated testing showed no evidence of the "seizure disorder" she supposedly had. We believe that when she was "hyper" her shuddering bursts of energy were interpreted as "seizures". Since she's been on the Feingold Diet she has had no "seizures", and she is no longer on seizure medication.

At this writing, she is one year behind her age group. She is learning letters and numbers, knows colors and shapes, and is talking all the time. She shows no sign of retardation and her learning delay is attributed to isolation and abuse she suffered before being adopted.

Thanks for making parenthood a little easier on us.

Natural Air Freshener

Put citrus peels into a warm oven or toss them into the fireplace. The citrus oils, released by the heat, will permeate the house with their tangy scent.



Chemical Hypersensitivity Syndrome

The California state assembly has passed a bill which will create an advisory committee to advance knowledge concerning the "chemical hypersensitivity syndrome." This is a term used to describe the extreme sensitivity of a growing number of people to the many chemicals in our environment.

Although one can be sensitive to a natural substance, the problems for most people stem from the thousands of synthetic chemicals which have been introduced into our environment in recent years. It is often referred to as a 20th century malady.

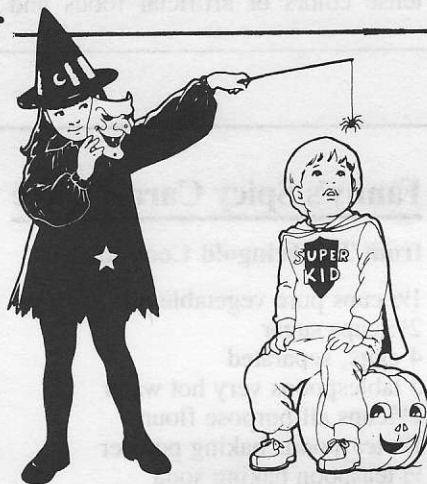
Special Pure Facts Offer

Solve the problem of what to give your child's teacher this holiday season by giving a Pure Facts subscription and save \$2 in the process.

For a limited time we are offering teacher gift subscriptions for \$10 (\$2 less than our usual price).

Send us the name and address of your child's teacher, plus the name and address of your child.

We will mail a special gift card for your child to give to his or her teacher announcing a full year of Pure Facts.



What is FAUS?

The Feingold Association, founded in 1976, is a volunteer, non-profit organization comprised of parents and interested professionals dedicated to improving the health and behavior of hyperactive/learning disabled children, and similarly affected adults, through the Feingold Program. This program is based on the elimination of synthetic colors, synthetic flavors and the preservatives BHA, BHT and TBHQ from our diet.

PureFacts

Editor: R. L. Oliveri
Subscription Manager: Gwyn Wertz

Pure Facts is published monthly, except for combined July/August and December/January issues, by the Feingold Association of the United States, Inc. Subscription rates: \$12 per annum in the U.S., Canada and Mexico; \$16 elsewhere (payable in U.S. currency). Additional contributions gratefully accepted.

All correspondence, subscriptions, renewals and change of address notifications should be sent to: *Pure Facts*, 21 Maple Avenue, Camp Hill, PA 17011.

Portions of the newsletter may be reprinted provided *Pure Facts* is cited as the original source.

To find the location of the nearest Feingold Chapter to obtain general information about FAUS, write to: Feingold Association of the United States, Inc., P.O. Box 6550, Alexandria, VA 22306.