Science and Magic at the Supermartorama

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What started out to be a quickie trip to the market for my wife the other day turned out to be a full day's opus, full of agonized choice-making. The shopping list demanded: "cough drops, cough syrup, aspirin, mouthwash, cleanser, hair spray, hair tonic, deodorant, shampoo, shaving soap, toothpaste, detergent, all-purpose cleaner, dish-washing liquid, bath soap, spray starch, after-shave lotion, margarine, fabric softener, car wax, and cigarettes." It sounded simple enough, but little did I realize what lay ahead of me. By lucky chance I happened to have a big dictionary in the car with me, and I soon had to run out and get it. It helped a lot, as things turned out, but it also failed abysmally at times, leaving me helplessly stranded in a semantic jungle of science, magic, and thousands of non-referential claims.

Sad to say, the dictionary let me down at the very outset—I happened to grab a mouthwash that contained "Dequalinium," whatever that is. Not only does the dictionary lack the word, the product label doesn't define it either, and what's worse, doesn't say what beneficial effects one might expect by choosing a Dequalinium-packed mouthwash over an ordinary, Dequalinium-less mouthwash. It almost drove me to howlisis.

I'm not one to seek scientific glamor in a cough drop; nonetheless, I couldn't resist those that contain "hexylresorcinol." And what, I hear you ask, is hexylresorcinol? It's C_{12}H_{19}O_{2}, that's what! Moreover, my dictionary came through beautifully with: "hexylresorcinol: a colorless crystalline antiseptic which is less toxic and more powerful than phenol." Since I don't relish the idea of sucking phenol tablets, I saw immediately that I was on firm ground in choosing tablets with C_{12}H_{19}O_{2}. Beside the cough drops were the cough syrups, logically enough. They were extravagantly arrayed in bottles, cruets, and something called "decorator decanters." Resolutely unswayed by the devious influences of ceramic art in this matter, I narrowed my choice to two syrups, one of which contained "Silentium," and the other "Neo-synephrine." The label with "Silentium" had an asterisk: "Aha!" quoth I, "Here's a symbol with a referent!" The search for a referent culminated successfully when I discovered a microscopic asterisk at the bottom of the label next to which, in letters 7-microns high, was the inscription, "modern cough silencer." So that's what Silentium is! My elation at this discovery of meaning amid confusion was soon punctured—"modern cough silencer" didn't
really say much: after all, the guillotine was an effective "ancient cough silencer." Besides, the "Neo-synephrine" tag on the other syrup didn't even give a tiny hint of what the stuff was, or what it would do for a cough. To this day I can banish the most persistent cough by gargling with molasses and water.

The shelf of aspirin must have been a quarter of a mile long. The ordeal of examining the ingredients, claims, sizes, and touted effects of 187 brands of aspirin left me glassy-eyed and panting. But the choices, upon thoughtful analysis, wasn't really hard to make. One brand, in a plastic bottle with a gaudy label, shouted that it was "UNHYDROLOGIZED." The dictionary didn't acknowledge the verb "hydrologize." Then it came to me in a flash that whatever the process of "hydrologization" is, the label was stating that it hadn't been done to this product. So I plunked this product in my basket, not because it contained anything special, but because it had escaped esoteric tampering.

Jubilant with success, I strolled into the aisle of cleanser. The choices of ingredients here were between "Ultra-Marine Plus," "Ammonial," and "Super CHLORINOL." All I could infer from the last two was that one contained ammonia and the other chlorine. But the "Ultra-Marine Plus" was a puzzle—did the cleanser just have a lot of sea water in it? Nope. Webster threw me a colorful curve with this: "ultramarine: a blue pigment consisting of powdered lapis lazuli." I chose this cleanser immediately since, it seemed to me, anything that contained powdered lapis lazuli can't be all bad.

The display of hair sprays was enormous. I adamantly refused to be influenced one bit by the testimonials of such lovely paragons of pulchritude as Jean Shrimpton, Joe Pepitone, and Hank Bauer. The first product had a "Filtered Formula." There was no mention of what the formula was or exactly how it was improved through filtration, so I cast it aside. The next spray, in a garish red can, had a gold label across which was emblazoned, "CONTAINS ESTERS OF LANOLIN." Just as the next guy, I know that lanolin is fat that is extracted from wool. But esters of lanolin? The gloom of ignorance dissipated as I read the following explanation from the dictionary: "ester: a compound formed by the reaction between an acid and an alcohol with the elimination of a molecule of water." It all became clear: esters of lanolin simply meant dry fat. But since I wasn't eager for my wife to clutter her hair with dry fat, I examined the next can of hair spray, which touted a "Special Protein Formula." It didn't elaborate. Was it a special formula, or was it a formula which contained special proteins? Having no way to determine either, I discarded it. The next hair spray had "FLEXINOL." There was absolutely nothing on the label by way of explanation, nor was there on the next spray, which contained "MIRAL." On down the line I came across a hair spray with "Exclusive Protein CURTISOL." I could discover no advantage in CURTISOL over either FLEXINOL or MIRAL, and was about to surrender the whole project when I came across a spray which contained "Pro-Tex." There was absolutely nothing on the label by way of explanation, nor was there on the next spray, which contained "MIRAL." On down the line I came across a hair spray with "Exclusive Protein CURTISOL." I could discover no advantage in CURTISOL over either FLEXINOL or MIRAL, and was about to surrender the whole project when I came across a spray which contained "Pro-Tex." There was absolutely nothing on the label by way of explanation, nor was there on the next spray, which contained "MIRAL." On down the line I came across a hair spray with "Exclusive Protein CURTISOL." I could discover no advantage in CURTISOL over either FLEXINOL or MIRAL, and was about to surrender the whole project when I came across a spray which contained "Pro-Tex." There was absolutely nothing on the label by way of explanation, nor was there on the next spray, which contained "MIRAL." On down the line I came across a hair spray with "Exclusive Protein CURTISOL." I could discover no advantage in CURTISOL over either FLEXINOL or MIRAL, and was about to surrender the whole project when I came across a spray which contained "Pro-Tex." There was absolutely nothing on the label by way of explanation, nor was there on the next spray, which contained "MIRAL." On down the line I came across a hair spray with "Exclusive Protein CURTISOL." I could discover no advantage in CURTISOL over either FLEXINOL or MIRAL, and was about to surrender the whole project when I came across a spray which contained "Pro-Tex."
The deodorants were not so vulnerable to inductive logic as were the hair sprays. One deodorant was "New, ACTIVATED!" Another was "New, Extra Protective." However interesting the philosophical subtleties (not to mention the technological difficulties) inherent in the problem of making the naturally dormant become active, I had to get on with the shopping, and decided to skip deodorants and bank on my natural fragrance.

The shampoo rack appeared innocent enough, but there lurks among shampoo brands enough magic and science to fill an encyclopedia. I couldn't help but be drawn toward one shampoo that claimed to possess "the secret of coconut oil." This was too fascinating to pass up; the very idea stagers the mind. But alas, the label didn't divulge the arcane properties the coconuts have kept to themselves. Another shampoo contained "Hexachlorophene." The label didn't say what hexachlorophene was, or what it was doing there in the shampoo, or what benefits I could expect to reap because of its presence. Once again, I enlisted Webster's help, and found "hexachlorophene: a crystalline phenolic bacteria-inhibiting agent C13Cl6H6O2." Eureka! It was just old C13Cl6H6O2 in disguise! But I decided against this shampoo because I wouldn't feel right harboring all those repressed microbes. I mean, who really yearns to be infested with inhibited bacteria?

The shaving soaps were pretty much alike, with a couple of exceptions. The first exception was a product which contained "K-34," followed by the familiar asterisk. Referring to the footnote, I found that K-34 was the manufacturer's trademarked notation for good old hexachlorophene, which, as you no doubt recall, is merely C13Cl6H6O2, so that was cleared up. The second exception was a shaving soap that contained "silicones." The label wasn't at all enlightening about this ingredient, so I hauled out Webster, who says of silicones, "... one of various polymerized compounds of silicon and hydrocarbon radicals used in lubricants, polishes and lacquers." I didn't bother searching out "polymerized compound" or "hydrocarbon radical" because I wasn't interested in having my face lubricated, polished or lacquered. I'll stick with lathering up with bath soap, thank you.

Toothpaste was next, and my choices narrowed to three items, one of which contained "ZIRCONIUM SILICATE," another "Fluoristan," and the last, "Gardol." Like most other toothpastes, they all promised snow-like bicuspids, chewing-gum breath, and sexual success with the very first person to whom you are attracted after using the toothpaste ("... white teeth can get you almost anything," coos the buxom lass in the arms of a Himalayan Tarzan as they trifle in their descent of an alp whose snow is dingy indeed, compared with the teeth of the lovers). ZIRCONIUM SILICATE, I decided after long consultation with Webster, is a metallic element extracted from zircon, "... used in steel metallurgy, as a scavenger, as a refractory, and as an opacifier in vitreous enamels," combined with a salt which is derived from silicic acids. Thus, ZIRCONIUM SILICATE is a sort of metallic, glassy salt? Bleah! Not in my mouth! "Flouristan," it turns out, is the manufacturer's name for stannous fluoride. Now, we all know that sodium fluoride (NaF) is used in public water supplies, and that it is, depending upon your point of view, either a salubrious concoction which keeps our teeth and bones healthy, or a dastardly communist plot to debilitate Americans en masse. Stannous fluoride, on the other hand, is fluoride which contains divalent tin.
(Sn⁴⁺). Exactly how do zircon, silica, divalent tin and fluoride help our teeth? We are not told this information. Gardol, too, is without referent, although I do remember some clown on TV demonstrating it as an “invisible shield.” More and more, it seems, we are persuaded to buy the invisible, the undemonstrable, the ineffable. I wound up buying a toothpaste that made absolutely no claims whatever about anything.

Laundry detergents offer more in the way of sweet-sounding magic than any other single product. For instance, one detergent claims to contain “improved BLUE MAGIC WHITENER.” Precisely how they improved upon what was magic to begin with is a tale left untold. Another offers “ENRICHED BORAX.” Borax, with Webster’s aid, turned out to be crystalline sodium borate (Na₂B₄O₇·10H₂O), which, in turn, is a salt of orthoboric acid. What can the word ENRICHED possibly mean when it is attached to BORAX? The label doesn’t say. What advantages does borax offer, enriched or unenriched? The label omits enlightenment on this point also. Still another product is (grip your seat firmly) “ENERGIZED—With Green Crystals!” What does ENERGIZED mean when applied to soap? No explanation. “Green Crystals” of what? No information. Another product is packed with “Sunshine whiteners,” but is again significantly lacking in helpful information. Finally (thank God!) there is a product which which contains, for no apparent reason, something called “DURABRITE.” Now, anything that goes around containing something called DURABRITE should explain itself. We are supposed to infer, I suspect, that magic is at work here, too, investing this product with the ability to impart durability and brightness to your undies. Again, by default, I chose the least rhetorical detergent.

For dish-washing liquid I found something that contains “Lanolin-D,” minus explanation. I also found some bath soap with “AT-7,” a hair tonic with “V-7,” and spray starch with “SL-32.” I swear it, so help me. It’s the same old story: Nowhere on any of these products is there the slightest suggestion of what Lanolin-D, AT-7, V-7, G-67 or SL-32 are, or in what ways these so-called ingredients enhance the products they occupy. Incidentally, among the spray starches was one with “Super Silicons,” if you can believe it. But I detected no explanation of how the polymerized compounds of silicon and hydrocarbon radicals in this product were rendered superior to what they are in nature. There is an after-shave lotion that contains “Humectin.” If “Humectin” is a humectant (a substance that promotes the retention of moisture), they can have it—who needs a wet face? And there is a margarine that contains “Golden Lactones.” Webster says, “lactone: any of various cyclic anhydrides of acids having one or more hydroxyl groups in addition to that in the acid group.” Not much help, and downright confusing when modified by “golden.” “BEIGE CYCLIC ANHYDRIDES” would tell us as much. A fabric softener has “Solium Plus” with no translation on the label, and there is nothing helpful in the dictionary. Among the car waxes there was one with a “Permacratic Formula,”
again yielding no explanation, and again drawing a blank from the word book.

Cigarettes are fully as confusing as detergent, toothpaste and hair spray. There is the "Micronite" filter, the "Selectrate" filter, and the "Keith" filter; some are "King size," some are "Super King size," others are "Deluxe Length," and still others are "Super-100's." One cigarette utters what must survive in history as the ultimate tautology: it claims to have "real taste!" Another cigarette, nothing daunted, says, with haughty precision, that it has "real tobacco taste." One is "mild," another is "mellow," most are "smooth," some are "menthol," and others have a "hint of mint." Me, I'm waiting for butterscotch cigars.

I noticed on leaving the store that the old Complaint Department was now billed as the Courtesy Booth. It seemed a change in keeping with my day's experiences. As I drove home, I mulled over my strange position with respect to market-place persuasion. I don't take vitamin pills to "feel vitamin-safe all day," yet I don't feel vitamin-endangered as a result. Deodorants don't make me feel "protected" any more than their absence makes me feel "half-safe." That my body isn't being built stronger 12 ways because I don't eat a certain brand of bread worries me not in the least.

When I finally got home, I explained my shopping experience to my wife, and asked her how she chose products. "I buy the greatest amount for the least money," she said. It seemed supremely simple until I realized that my wife is a whiz with a 26-index slide rule, which she always uses at the market.

But what about all those people who don't carry dictionaries or slide rules to market with them? Upon what basis can they exercise rational choice? Perhaps the solution lies partly in the helpful discoveries of semantics. Semantics tells us that the word is not the thing, the map is not the territory. If, in the market, we discard as buying alternatives every map ("contains MIRAL!") for which there is no discoverable territory, we must be at least part of the way along toward rational purchasing. Should the shopping chemist divine some superiority in \( \text{Na}_2\text{B}_4\text{O}_7\cdot10\text{H}_2\text{O} \) over \( \text{C}_{13}\text{Cl}_6\text{H}_6\text{O}_2 \), he will exercise his option according to his insight. If, in our buying, we discount all the magic and meaningless (for us) scientific jargon, the products available to us come out pretty evenly matched.

If, on the other hand, we seek increased virility in a toothpaste, social predominance in a cigarette, and neighborhood prestige in a detergent, then we are likely to discover that we have been hornswoggled by the ski lodge beauties, our daughters aren't invited to the cotillion ball after we've gone through five cartons of gold-wrapped cigarettes, and when the neighbors don't shout over back-yard fences acclaiming our "whiter than white, brighter than bright" laundry. But we are ahead in one sense—we are, through sore disillusionment, turned around on the road to insanity, and headed back to rationality, where, hopefully, we won't seek more from toothpaste than clean teeth, more from cigarettes than satisfaction of an oral fixation, or more from laundry detergent than clean clothes.

We can then maintain our sanity amid the proliferation of non-referential, high-pressure persuasion we are assaulted with from every bubble-gum wrapper, every dirigible, 31 times an hour on daytime TV, on roadside barns, and from every single item in the supermartorama.