

## Biochemical Individuality in Alcoholism

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This document was originally prepared for Dr. Mark Woodford, Department of Counselor Education, The College of New Jersey.

This information is being used to create a program called Suppers for Sobriety, a group that seeks to correct a long-standing shortcoming of current treatments for alcoholism, namely, the omission of the nutritional status of the physical body from treatment for a disease that profoundly affects the body, mind, and spirit of the sufferer. The biological face of alcoholism is fundamentally a "de-naturing" process, that is to say, a problem that can only exist because of food refining processes. Alcoholism, or any substance addiction, could not exist had humans never learned to process and concentrate plants. Since the biological aspect of alcoholism involves de-naturing, a "re-naturing" process must be part of the solution. The way into the problem suggests the way out. And Suppers for Sobriety seeks to show the way.

Please contribute to the ongoing program development of Suppers by making your comments and returning them to [Dor@TheSuppersPrograms.org](mailto:Dor@TheSuppersPrograms.org). Your comments and stories based on these principles may be used in our manual.

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### Abstract

Separating alcoholics from a vibrant sense of well being is a long list of symptoms that includes mood swings, anxiety, depression, hostility, fatigue, and cravings. Even in long-term sobriety, many alcoholics just don't feel well. They continue to get messages from their bodies that call them to ingest things that will change how they feel. It is no coincidence that doing service at AA meetings includes making the coffee or bringing the cookies, nor that many people who have been heavy drinkers have not stopped smoking. One common thread among these behaviors is that they affect insulin regulation, which in turn influences mood and cravings. This document was originally intended to examine the underlying biochemical disruptions that sabotage sobriety in after care in different ways in different individuals depending on their particular biological vulnerability. It was the author's intention to consider insulin regulation as just one problem in the larger context of all the conditions that combine to produce a relapsing alcoholic. A further intention was to demonstrate how lack of awareness of biological individuality in alcoholics promotes turf wars among the institutions that treat alcoholism. As research progressed, a serious risk factor for relapse emerged: by virtue of their failure to function cooperatively, the fields and institutions that treat alcoholism perpetuate it.

### Starting Bio Assumptions

Biology is incompletely represented in the world of alcoholism treatment. This is a problem for people who want to stop drinking because it prevents them from getting relief from a key risk factor for drinking, which is the fact that they feel lousy. It seems ridiculous to inform readers that the starting assumption of this document is that all alcoholics have bodies. Yet it is necessary. The fact of the physical body is inadequately addressed in conventional treatment. This paper recognizes that each physical body is made up of cells. It assumes that every emotional, spiritual, psychological and all other events are experienced on the terrain of this physical body and that the physical body mediates these experiences. And finally it assumes that it is therefore legitimate to consider as critical the influence of basic biology, that is to say "cells", in any discussion of addiction. To put it in language familiar to scientists, having a physical body is a necessary but insufficient condition for having an alcoholic experience. But it *is* necessary.

Another starting assumption is that there is validity in the twins studies, including Goodwin (1973) and Cloninger, Bohman and Sigvardsson (1981) indicating that genetic vulnerability is a predisposing factor in some alcoholics. The point here is not to support biological determinism, but only to claim for biology its appropriate share in the etiology of alcoholism for each addict.

Originally writing in the late 1950s, biochemist Roger Williams (1978), wrote:

Anyone who attempts to discuss the subject of alcoholism as a whole without regard for biochemical individuality is, in light of our recently acquired knowledge, clearly attempting the impossible. (p. 44)

Evidence for this biochemical individuality lies in anatomical variations, responses to drugs and chemicals, and nutritional needs, to mention a few. Rogers found that differences in so-called normal individuals could range as high as 500 to 1000% and that these differences explained why some bodies are strongly vulnerable to drink while others are not. Failure to address this individual variability is at the heart of the alcoholism-perpetuating influences of the disciplines that treat it as if it were one disease or condition.

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### Who Owns "Bio"?

When people in this field use the prefix "bio", as in "biopsychosocial", the bio piece has more to do with medicine, especially detox, than it has to do with cell integrity. But aside from the detoxification of chronic alcoholics, medicine doesn't offer much to alcoholics. Alcoholism is a commonly missed diagnosis. It isn't until the disease is well established that physicians diagnose alcoholism, and by then significant health and social problems have likely developed. The relapse statistics suggest that handing medicine the whole biological piece of sobriety maintenance isn't working. Drinkers are not done needing biological support after detox. The clues to their ongoing need for help at the level of their cells lie in their physical symptoms. Cravings, headache, irritability, insomnia, fatigue, anxiety and depression are dead giveaways that their cells are in screaming need of restoration. They are experiencing what Milam and Ketcham (1983) referred to as poor quality sobriety. And while some can maintain abstinence without restoring their physical bodies, the records suggest that many do not. They relapse.

Littleton et al. (2004) noted that few medications for treating alcohol dependence exist and called for greater cooperation between academia and the pharmaceutical industry to penetrate this potentially enormous and largely untapped market. But if that lucrative market were tappable by medication's magic bullet, it seems incredible that the pharmaceutical companies have not figured out a way already.

We make expensive mistakes in human and monetary currency when we don't render unto biology that which is biology's. We make grievous errors when we assume that the bio piece of biopsychosocial addiction treatment belongs exclusively to doctors and pharmaceutical companies. Clearly withdrawal needs to be managed according to the best that western allopathic medicine has to offer. That's what our culture's medicine excels at, emergencies. But damaged cells are a different story. They fall into the slow but steady domain of nutrition and environment, not the quick fix domain of drug therapy. If we consistently turn to medicine, we don't solve the underlying problem and we devolve into a culture of people who are dependent on expensive chemicals, a complicated distribution system, and an uneven third party payment environment.

Nature designed bodies made out of cells millions of years before man developed pharmaceuticals. So far we have learned how to manipulate symptoms with drugs, but we have not figured out how to fix cells that have been destroyed by alcohol. Drugs don't regenerate cells and tissues; bodies do. Any protocol that purports to help alcoholics in long term after care must include supporting cell restoration.

A commonly heard lesson in the rooms of the 12 step programs is that it is a form of insanity to do the same thing over and over and expect a different result. Treatment models that continue to base the bio piece on pharmaceutical intervention to the exclusion of cellular restoration epitomise this kind of insanity. The biological question in addiction treatment is not only how can we use pharmaceuticals to achieve abstinence, but how can we support the body's native ability to produce its own healthy cells? This is mighty important considering that all the rest of our human experience, emotions, thoughts, memories, senses are mediated by our cells.

Let's look at some science that does not appear in the counseling literature. Roger Williams (1978) understood alcoholism as a genetrophic difficulty, meaning that it is a condition of an unusually high nutritional requirement of genetic origin coupled with a failure to meet the need. The needs are highly variable from one individual drinker to the next,

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but one thing that all drinkers develop is what Roger's calls "body foolishness", a loss of wisdom in the appetite-controlling centers. Subsequent work by Beasley (1989), Larson (1997), Gant and Lewis (2002), and Ross (2002) explains much of this foolishness in terms of trouble with neurotransmitters. All have written books in language accessible to counselors about the amino acids and other nutrients that are, as Rogers presaged, required in highly variable amounts by individuals.

Stating complicated medical issues in simple terms so that people from other fields could have access to nutritional information, Rogers noted that food constituents like amino acids are merely names to most. He pointed out that no human being can develop or maintain life unless all nutrients are furnished in sufficient amounts. But supplemental vitamins have been in and out of vogue over the years. Although the need for nutrients is universal and absolute, using supplemental nutrients has been controversial. Nevertheless, for bodies to function optimally, our cells need a constant supply of the essential nutrients; none can be left out without consequences to how we feel and function.

Psychoneurobiology proponent Kenneth Blum (1986) recognized addictive diseases in considerable part as deficiencies or imbalances in brain biochemistry. He maintained that depression, and craving for sugar, alcohol, coffee, and cocaine stem from inadequate amounts of neurotransmitters, particularly dopamine, which create feelings of pleasure and satisfaction. He called it the "reward cascade". Genetic anomalies and chronic abuse of addictive substances cause the neurotransmitter system to malfunction. Blum used vitamins and amino acids to restore normal moods and reduce drug hunger.

Clearly, there is a gulf between the fields of medicine and nutritional biochemistry regarding the prefix bio.

Just as AA works for those for whom AA works, nutrition is the answer when nutrition is the answer. Or better, when malnutrition or suboptimal nutrition is the problem, the appropriate bio piece is nutritional restoration of cells, not pharmaceuticals. As naturopath (a doctor who treats with natural substances) Joseph Pizzorno (1997) noted, all alcoholics need a number of counseling, lifestyle, and metabolic-balancing therapies. The therapies must match the etiology of the problems.

An inclusive and holistic view like this is going to have a natural constituency and natural enemies.

The natural constituency of this paper is people who believe it would be easier to stay sober if they felt physically well as well as those who treat such people. The natural enemies of this view are any who have a vested interest in treating alcoholism according to one model or discipline and those who are wedded to a definition of bio that means pharmaceuticals, not cells.

The pharmaceutical manufacturers are not the only ones at odds with the bionutritional community. Alcoholics Anonymous has drawn fire from the researchers and writers who truck in nutritional biochemistry. Cheever (2004) reported that Bill W. was accused of violating the AA traditions when he made nutritional recommendations. Several sources indicate that AA has withheld compelling documentation of the value of nutritional therapies presented to the AA doctors by Bill Wilson in the 1960s. According to Beasley (2000), there exist over a hundred pages on Bill's research into hypoglycemia and B vitamins that have been classified by the organization. Larson (1997) also refers to this material. The author was unable to obtain them through the AA archives and the Library of

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Congress. According to Beasley, who now makes the documents available for a price, the thrust of these papers was to exhort AA and the medical community to do more research on niacin and to advocate for a nutritional program of whole foods and reduced intake of excessive sugars, refined carbohydrates and caffeine. But because a fundamental principle already established by AA was to have no opinion on outside matters, even Bill W. did not succeed at incorporating the information. The body aspect of the disease was forever to remain an outside matter in the eyes of the world's most successful program for a disease of the body, mind, and spirit.

### Issues of Language

A strong perpetuating factor for alcoholism is the language we use and the force it exerts on our assumptions.

Disciplines and models of understanding lay claim to vocabulary words in ways that make simple statements dicey to utter. The word "disease", for example, is an author's snake pit. Readers of this or that view can line themselves up behind the sentences, "Alcoholism is a disease;" "Alcoholism is not a disease;" "Alcoholism is like a disease;" or "The disease of alcoholism plays out on a continuum." For the purposes of this piece, and with the utmost regard for the ongoing discussion on the table as to whether or not alcoholism is a disease, the following statement applies: To the extent that the biochemical predisposition to heavy drinking is a disease, it is not *a* disease. It is at least four. One of the simplest-to-remedy but most damaging characteristics of alcoholism is a languaging problem. The condition that we call "alcoholism" is an unfortunate umbrella term for at least four very different biochemical problems that share the common symptom of predisposing one to excessive drinking. Even the reasonable sounding claim that alcoholism plays out on a continuum is misleading. There are at least four continua. They start with different biological vulnerabilities and are followed by all the medical, emotional, psychological, spiritual, social and other problems of heavy drinking. These problems may be treated with greater or lesser success by the modalities appropriate to their etiology. But because the condition is named for the one *behavior* that all these problems have in common, problem drinking, we are tricked into buying the notion of "one". The consequences of this assumption are profound.

The DSM IV (1994) does not help us sort out the confusion of one versus four or more. It provides seven diagnostic criteria, at least three of which must be met in a year in order to qualify for the diagnosis of substance dependency. Although it provides a somewhat flexible definition, it does not address the underlying biochemical issues and creates the illusion that the American Psychiatric Association somehow owns the treatment arena. In the natural reality of alcoholism, the consumption of alcohol is a common solution that people with a variety of biological problems do to get relief from their symptoms. This is not to claim too much etiology for biology, but only to say that in many alcoholics specific disease processes are the factors that predispose them to problem drinking. These distinctions will be detailed in the section featuring the program of Joan Mathews-Larson (1987).

Very briefly, counselors may recognize Larson's four bio types through the clues embedded in alcoholics' early drinking stories. One is an alcoholic who can hold a tremendous amount of liquor early on without getting a hangover. The second is the binge drinker with Jekyll/Hyde qualities. The third is a depressed person who feels happy and normal for the first time when he drinks; and the last is a lighter drinker – often a woman -- who self-medicates for depression or anxiety. Though they all can end up hooked on drink,

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the physical vulnerabilities are very different. These biology-dependent aspects of the evolution of an alcoholic simply are not counseling-sensitive issues. An analogy would be treating a patient with an anxiety disorder with antibiotics, a very effective solution for a different problem. Addressing the underlying biological issues would, however, make an alcoholic a better candidate for counseling by reducing the raging physical discomforts. Counselors and addictions counselors could be more effective if the treatment culture addressed biology's role and accepted different roles for biology in each individual drinker.

We have all been exposed to the studies that place treatment outcomes at around 30% abstinence, some a little better, some not, some with aggressive treatment, some not, some with AA, some not, and so forth. Each approach has certain biases and mindsets, and proponents experience greater success with their own favorite models than with somebody else's. But while we accept roles for disease, spirituality, and societal pressures, most of us still talk about alcoholism as if it were one thing. Further confusing the issue, since 1982 alcoholism has been officially a disease, giving the impression that the medical establishment owns the treatment of it. Powerful as it is, the medical establishment can't own a physical reality simply by calling it a disease.

Giving a set of circumstances a pathology label or name comes with certain risks and benefits. The benefits: It gives us a framework in which to think about it. It helps us quantify it. It lets people get reimbursed for the treatment of it, assuming they are insured. The downside is that once it has an official name, disciplines form around the study and treatment of it and start taking ownership for that aspect of the disease that they understand best. For the duration of the reign of that label, we are at risk of believing that the condition actually exists as it is officially defined. But alcoholism, as it shall be demonstrated, is at very least four totally unrelated disease states, and that's only the biological piece. An analogy: Until we had microscopes and germ theories, infectious diseases were considered any number of cunning, baffling and powerful forms of witch craft, ill winds, and retributions. The history of medicine is rich with stories in which today's heresy is tomorrow's conventional wisdom (See Riordan, 1988 and Riordan, 1989.) Alcoholism is a modern day version of this phenomenon.

But to find lasting relief from the beckoning of cravings, the misery of depression, the exhaustion of pain and anxiety, individual drinkers need relief from their particular underlying chemical disruptions. In the diseases we call alcoholism, it is necessary to tease out the clues of individual drinkers' biochemistries so that treatment can render unto biology that which is biology's and render unto counseling that which is counseling's. And so forth.

### The Word Disease

The word "disease" is a real hobgoblin in this environment. Satel and Goodwin (1998) noted the problem of competing understandings of the word disease. They credited AA for popularizing the disease concept of addiction but say AA uses the word disease as a metaphor for loss of control. In their estimation, going into recovery is a voluntary behavior and therefore not the inevitable, involuntary product of a diseased brain. Albert Ellis (1992) said that calling this a disease is denial and offers a rational emotive approach that works for some. Leshner's (1997) truth is that addiction is a chronic relapsing disease that results from the toxic effect on the brain.

To disease or not to disease, it's impossible to get this right. For some sufferers, it's important for there to be a disease. This works for the people for whom AA works. It

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works for those who would not otherwise be able to afford treatment. Disease is their ticket to treatment and reimbursement. But for others, insistence that their drinking problem is a disease excludes them from care. They may not want the label or their problem has not yet (and might never) progress to the point of clearly defined chronic alcoholism, or the concept of victim is inconsistent with their sense of self-determination. The longer we keep the focus on finding just the right words, the longer we won't be communicating with people in other disciplines who lay legitimate claim to part of the problem. Ketcham and Asbury (2000) detail the prices exacted by the turf war between the disease and the disease-nots.

One thing is sure, alcoholics would be better off if we stopped focusing on alcoholism as "a disease" and started focusing on drinking as a symptom. Once we make this admittedly tectonic shift, we can detach ourselves from the notion of one. We can start recognizing the mayhem this tiny molecule wreaks as it interacts with individuals.

### The Word Detoxification

Another innocent vocabulary word that engenders a lot of misunderstanding is "detoxification". The meaning all depends on who is writing or reading the word. In the addiction profession, "detoxification" refers to a very brief period following initial intake, during which the addict agonizes his way through the first few days, purging his system of the substance(s) that brought him to treatment. The medical profession and addiction counselors use this definition.

In the professions that deal with cellular metabolism, like nutritional biochemistry and orthomolecular psychiatry, detoxification means something completely different. For these providers, detoxing extends to all the materials stored in one's cells resulting from substances and medications, poor diet, stress, and environmental pollutants. To those who speak this language, the detox process is much longer and more complicated, but the pay off is enormous for the sufferer. When an addict detoxes by orthomolecular standards and replenishes whatever deficiencies led him to his drug(s) of choice to begin with, the biological piece of his addiction puzzle is complete. A thoroughly detoxed person by definition has no cravings beyond the normal desires to ingest things that are good for him. This is usually accomplished without the pharmaceuticals that block re-uptake or that work by occupying receptor sites with synthetic neurotransmitter look-alikes. Rather, it is completed by restoring tissues at the level of cells and replenishing the brain with the amino acids and other building blocks the brain needs for producing its own neuro-chemicals.

### The Word Alcoholic

The word "alcoholic" is another snake pit. Its definition depends on which room one is in or where one is in the literature. At one extreme, material written by doctors and addictions counselors, the word is applied to those in the advanced stages of the disease process. The Big Book of Alcoholics Anonymous makes distinctions among moderate and hard drinkers and alcoholics. Moderate and hard drinkers can stop if necessity requires it; alcoholics may start out that way but ultimately lose all control. (Alcoholics Anonymous, 2001).

The AA literature was originally written by and for such "real alcoholics". But anyone who has the desire to stop drinking qualifies as a good enough alcoholic to attend meetings. At meetings, people introduce themselves as alcoholics, be they tipplers, high functioning business people, or skid row drunks. In other rooms, those of AI Anon, and in the offices of

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marriage counselors, people get called alcoholics though they may not be bad enough yet to merit reimbursable treatment. In between the extremes of clinical definitions and name calling lies a quagmire of unofficial definitions of alcoholics, some of whom are served by people with degrees called counselors. But even people with counseling degrees do not use the word the same way. This is very confusing.

By the time an alcoholic lands in the hands of an addictions counselor, he has likely passed the point where someone in family counseling or some educational model could have helped. But if his drinking has messed up his marriage enough, or cost him a job, or gotten him in trouble at school, he's a "good enough" alcoholic to receive help from a family counselor, an agency counselor, or a school counselor. Or perhaps he is a good enough alcoholic as diagnosed by his loved ones, who cling to Al Anon meetings to cope with the family disease that extends from his drinking.

As one who has suffered most angles of these diseases, the author maintains that the distinctions drawn by the authorities among problem drinkers, abusers, and alcoholics are artificial and not very useful to people outside disciplines. The lines are meaningful to insurers, who can pay or deny based on convenient artificial distinctions. They are meaningful to counselors, who need to know which kind of counselor someone should be referred to. But to alcoholics and their loved ones, they may not be meaningful if they don't reduce suffering. There is a pertinent quote of Soren Kierkegaard in the Al Anon book of daily readings called Courage to Change (Al Anon Family Groups, 1992): "Life can only be understood backwards, but it must be lived forwards" (p. 285). So far, we have no way of knowing ahead of time which drinkers will end up chronic alcoholics. We can only look back and see how they got there. If, however, we could learn to live with a flexible or fluid definition of alcoholic that serves all the different kinds of alcoholics, we would be able to reduce the suffering without perfect words. This will be covered in the section on the stress loading theory of alcoholism.

### The Word Holistic

The alternative to discipline-driven health care is called "holistic". The word "holistic" has several reputations. For some "holistic" connotes new age, quackery, unscientific. For some it means working with nature. For others, it simply means "multidisciplinary". This is how van Wormer and Davis (2003) used it, referring to a model that includes the bio, the psycho, and the social. The dictionary definition requires more than multidisciplinary: "relative to or concerned with integrated wholes or complete systems rather than with the analysis or treatment of separate parts" (Merriam-Webster, 1997, p. 354). For the current paper's purposes, we will seek to live up to Webster's concept of integrated wholes. Further, we will appreciate and draw on the two kinds of wisdom: one is the wisdom and rigorously scientific work of people who have deep understandings of narrow subjects. Not to become slaves to specificity, however, we will also appreciate and draw on work that allows for important contributions to be made by people with shallower understandings of a broad array of subjects. The prevailing health care paradigm favors specialties, the deep and narrow thinking, but there is good reason to invite in the shallow and broad: The human body evolved as an integrated system long before disciplines carved it up into rigidly defined systems. In order to understand both the parts and the whole, we need to value both the thinkers who approach the subject in deep and narrow ways and those, including the addicts, whose understanding is broad but shallow. If we don't, we fractionate the human experience. We get psyches for psychologists to treat, glands for endocrinologists, moods for psycho-pharmacologists, hearts for cardiologists, and so on. In any given

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alcoholic, depending on his individual set of circumstances, input from any number of fields is going to be required because alcoholism is not one problem or one disease.

Holistic approaches concern themselves less with labeling and diagnosing and more with lifestyle changes for restoring the whole person to his normal and harmonious balance (Hoffer & Walker, 1996). Sometimes the treatment works whether the problem has a name or not. In this way of thinking it may be possible to accept that we are not going to come up with a clean, discrete, tidy definition for a fluid, chaotic, multifaceted problem like alcoholism. And maybe it isn't always necessary. When a person's global nutritional status improves, problems sometimes resolve without ever having been diagnosed. The deep but narrow thinkers can talk about these issues in their own languages, but none can own the entire playing field. It takes a holistic approach.

### The Hobbled Man

#### Expert Care for Part of the Problem

From the Big Book:

Giving up alcohol alone was not enough for me; I've had to give up all mood- and mind-affecting chemicals in order to stay sober and comfortable. (p. 411)

Half measures availed us nothing. (p. 305)

The primary lesson the author has learned from living inside this problem and studying this issue is this:

Our current treatment paradigm condemns addicts to expert care for parts of their problem. True, some models are more or less multidisciplinary. But as long as addicts have cells and psyches, families and jobs, genes and stress, they'll need not only an integrated approach but an integrated approach tailored to each alcoholic's individual needs.

Picture a man hobbled by, say, 14 nails in his foot. The man is an alcoholic who earnestly wants to stop drinking. Each nail represents a variable that contributes to his alcoholism: genetics, drinking in his family of origin, peer pressure, other addictions, deficient neurotransmitters, malnutrition, low blood sugar, loneliness, depression, insomnia, chronic pain, cravings, age, life stress, and so forth. In treatment and recovery, the nails start coming out and sobriety becomes more and more possible. But if one of those nails remains in his foot, he's still hobbled. The hobbling nail primarily under examination is nutritional biology, specifically, that which relates to stabilizing the brain's main fuel, glucose. Williams (1978) recognized the effectiveness of AA but added that "as long as nutrition is seriously impaired, these psychological and spiritual influences are needlessly handicapped in the efforts to bring about rehabilitation" (p.93).

A prime consideration for an alcoholic is to build up his nutritional status so that his physical body will increase his power to abstain. Even the transcendent spiritual experience that removes 13 nails simultaneously with a spiritual conversion could use a little help from biology to make sobriety more comfortable and reduce the risk of relapse. Bio Clues

From the Big Book:

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That is where I had my first drink, and I still remember it, for every 'first drink' afterwards did exactly the same trick – I could feel it go right through every bit of my body and down to my very toes. But each drink after the first seemed to become less effective, and after three or four, they all seemed like water. I was never a hilarious drunk; the more I drank, the quieter I got, and the drunker I got, the harder I fought to stay sober. So it is clear that I never had any fun out of drinking – I would be the soberest-seeming one in the crowd, and, all of a sudden, I would be the drunkest. Even that first night I blacked out, which leads me to believe that I was an alcoholic from my very first drink. (p. 222)

First drinking stories and drinking history often occupy center stage in the AA setting.

Alcoholics wax eloquent about how they felt the first time and their drinks of choice. They are fascinating for their range of reactions. But in studying alcoholism, we come across little to explain why the same substance produces such disparate effects in different people until we consider nutritional biochemistry. The answer to this part of the cunning, baffling and powerful problem is in their physical bodies.

### Larson's Program

Counselors have to be careful with vocabulary words that the medical profession claims to own like "diagnose", "treat", and "cure". But it can't be helped that there are relatively easy-to-read "bio clues" embedded in every alcoholic's early drinking story. A wealth of information about the underlying causes of drinking can be ferreted out if we ask the right questions about first use experiences, drugs of choice, hangover stories, how the body feels, and mood. Being able to read bio clues can help explain the baffling and be a springboard to appropriate action.

Author of Seven Weeks to Sobriety, nutritionist Joan Mathews-Larson (1997) runs a residential program in Minneapolis and claims a 74% abstinence rate three and a half years following completion of her program (Larson, 1987). She maintains that most alcoholics fall into one of three bio types. Although the work of many clinicians centers on bionutritional solutions, Larson's is packaged in a user friendly way. It will form the basis of this look at the underlying biology of drinking and bio clues taken from the big book of AA. To make it easier to remember, the author has created the acronym ALOHA.

### A.L.O.H.A.

One of Larson's bio types is the drinker who could not initially handle large quantities and remembers his first drinking experience for feeling ill and getting a hangover. We'll call him the "A alcoholic" because his problem lies in an allergic/addictive relationship with the substance. Bio clues for the A alcoholic include a likelihood of experiencing euphoria followed by depression, anxiety, confusion and especially hangover. He is more likely a binge drinker, one who loses control easily, and becomes angry or abusive. This alcoholic is especially vulnerable to relapse for reasons that will soon become clear.

The hallmark of the second drinker is that he can drink large quantities from the start, does not get tipsy, feels great, and does not experience hangovers in the early part of his drinking career. He thrives on the three-martini lunch and goes back to the office. We call him the "L alcoholic" because the source of his huge native tolerance for liquor starts in his special liver.

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The "O Alcoholic" is identifiable by his first drinking story. He is depressed before he starts drinking and feels normal or happy or whole for the first time in his life when he takes a drink. His depression returns after each drinking experience. We call him the "O alcoholic" because his vulnerability to heavy drinking comes from a genetic problem in metabolizing Omega 6 fatty acids, the symptoms of which are relieved temporarily by drinking alcohol.

In each of these three cases, the potential alcoholic's bio type determined how he would interact with alcohol before his first drink. Bill W. (or W. Wilson, depending on which audience the author seeks to cultivate) was prescient when he prophesied that an "allergy" would one day be discovered. He speculated that this allergy would one day be understood and that it could explain the distinctions among "moderate", "heavy", and "real" alcoholics, separating people who could drink normally or stop with an effort from those for whom it was cunning, baffling, and powerful.

Bill W. was 100% partially right. Not knowing that alcoholism is several different underlying diseases, he pegged it for a significant subgroup of the population.

Before expanding on the three noted bio types, it should be added that there is one more category of predisposition to drinking in Larson's model. The fourth drinker, often a woman, does not tolerate large quantities of alcohol but relies on alcohol for mood elevation or self-medicating for anxiety. She is likely to feel very attached to alcohol although her body doesn't allow her to habitually imbibe large quantities. This is the "H" or hypoglycemic drinker.

To complete the acronym, the final "A alcoholic" category is the catchall created for "all the rest". Problem drinkers who don't fall neatly into the first four bio types may spiral down into alcoholism due to some admixture of types or for reasons unclear to date. To make this convenient for counselors to remember, however, the bio types can be remembered with the acronym A.L.O.H.A. (allergy, liver, Omega 6, hypoglycemic, and all the others). To make information on the three primary bio types in Larson's model come alive for alcoholics and counselors, let's look at some familiar material at a slightly different angle.

### A Alcoholic (Allergic/Addictive)

From the Big Book

I was ten years old when I had my first drink of alcohol. On New Year's Eve I stole two glasses of vodka from my parents. I can't say that it did what it was supposed to do, for I got deathly sick, threw up, and had diarrhea. (p. 495)

My first drinking spree was on corn liquor, and I was allergic to it, believe me. I was deathly sick every time I took a drink. (p. 290)

First drinking stories are gold mines of information about underlying biology. People who get sick on liquor and drink anyway are likely to be "A" alcoholics. This drinker has an allergic/addictive relationship with the contents of the drink, including the sugar, grapes, yeasts, and grains. His story will include highs and lows around drinking, a sense of well being when supplied and low when in withdrawal. This type of drinker, unlike his L drinking buddy with the same diagnosis but a different problem, may experience depression, anxiety, confusion and hangover. His body responds to alcohol as an allergen, protecting itself by producing its own narcotics, opioid endorphins, and a certain sense of euphoria. He may not experience the inflammatory wheezey, sneezey symptoms we usually think of as allergic responses; his inflammatory response takes place in his brain. When

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a counselor is confronted with the binge-drinking A alcoholic who loses control easily, he is witnessing the bio clues to cerebral allergy.

The A alcoholic has several strikes against him in the current rehabilitation environment. His alcoholism is truly cunning, baffling and powerful until the underlying biological factors are brought to light. According to Larson, this is the alcoholic whose comrades at AA meetings are more likely to say he's not working the program. This alcoholic is a sitting duck for relapse. When this alcoholic gets a whiff of ethanol *from any source* it's as if he'd already taken the first drink because he's constitutionally sensitive to ethanol.

Ethanol is everywhere. Common chemicals containing ethanol can trigger powerful alcohol cravings in the allergic drinker. Exposure to gas, cleaning solvents, formaldehyde and even perfumes are a set up for the allergic alcoholic who experiences a mild intoxication even without taking a drink. Abstinence isn't nearly good enough to distance this sufferer from the pull to drink because common environmental chemicals sabotage him with powerful, illogical cravings. Counselors facing this well-intentioned but baffled alcoholic might hear lines like, "I don't know why I do what I do;" or "I don't know what came over me." Counselors may consider it a possible bio clue of cerebral allergy when faced with the type of alcoholic who experiences sudden anger, depression, or abusiveness. For this type of drinker, career counseling may be as important as lifestyle and diet counseling. Certainly an education is required about ethanol-containing materials and how avoidance of them will make maintaining sobriety a lot more doable.

### The L Alcoholic (Liver Enzyme)

From The Big Book:

I did it more and more, and had lots of fun without much grief, either physical or financial. I seemed to be able to snap back the next morning better than most of my fellow drinkers, who were cursed (or perhaps blessed) with a great deal of morning-after nausea. Never once in my life have I had a headache, which fact leads me to believe that I was an alcoholic almost from the start. (p.172)

Does this sound at all like someone suffering from the same disease as the previous person who is also called an alcoholic? This person's approach to full blown alcoholism takes a completely different path because he has a completely different underlying disease.

The livers of non-alcoholics take in alcohol; change it to highly toxic

acetaldehyde; then to acetate, carbon dioxide, and water; and then expel it through the lungs and urine. The accepted wisdom on this process is that the average liver processes a beer, a glass of wine, or a shot of liquor in an hour. It has been in the literature since 1977, however, (see L. Tunglai, et al., 1977) that some people have a special enzyme that enables them to drink large quantities of alcohol without getting drunk. In the "L alcoholic", the liver changes it to acetaldehyde twice as fast but to acetate about half as fast. This drinker has a natural capacity for volume, but over time the harmful acetaldehyde damages and enlarges liver cells and renders the liver unable to use nutrients. Acetaldehyde also travels to the heart and brain and blocks normal neurotransmitter action governing feelings, behavior and memory. This type of alcoholic has a genetically transmitted liver enzyme called alcohol dehydrogenase II. What counselors will see when looking at an alcoholic who oxidizes alcohol a lot more efficiently than the rest of us, is someone who for years really can take in large quantities, still feel OK driving, who doesn't become intoxicated or get a hangover in the early years of drinking.

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This drinker feels so good and suffers no consequences for so long that treatment for alcoholism seems ridiculous. Treatment is typically not sought until this drinker is severely toxic. He will be treated with standard detoxification and pharmaceutical interventions that block re-uptake or occupy receptor sites of neurotransmitters. This is logical since the unused neurotransmitters blocked by acetaldehyde, form substances that are so similar to natural opiates that they fit in the same receptor sites in the brain as endorphins. Endorphins are the body's natural pain killers. Pharmaceuticals are typically used to alleviate the suffering of the addict by substituting alcohol with medications that fill these receptor sites. (Morphine and heroine can occupy the same sites). The big word for this substance is tetrahydroisoquinolines, or THIQs. As THIQs displace endorphins, the brain gets the message to stop producing its own natural opiates. More and more alcohol is needed to produce the THIQs to replace endorphins and create a sense of well being. The relevance of THIQs is not agreed on in the fields that treat alcoholism. This is perhaps owing to their being very significant in a subset of alcoholics but not at all in most alcoholics. The bio-medical approach and the bio-nutritional approach part company on the issue of how best to deal with deficient endorphins and neurotransmitters. The bio-medical model uses pharmaceuticals. But people who wish to restore good mood and reduce cravings by restoring the body's natural neurochemicals also have the option of using nutritional approaches that provide the brain with the building blocks -- the amino acids, vitamins and minerals -- that neurotransmitters are made of to begin with. Both solutions address biological needs, but one makes the alcoholic dependent long term on drugs; the other restores his body to normal function with nutrients.

### O Alcoholic

Susan Cheever (2004), in My Name is Bill, recounts his first drinking story:

The scene went from being a nightmare to being beautiful. 'I could talk well. I could actually please the guests.' Bill had ascended into the top ranks of society with just a few drinks, and he thought he had found the elixir of life....He found that in situations where he couldn't drink, the old inferiority and discomfort would come flooding back. (p. 75)

Does it sound like Bill W.'s body is having the same reaction to alcohol as the previous two?

A big bio clue to the "O" Alcoholic" is his wonderful reaction to his first drink. He may describe the elixir of life, the first time he ever felt really well, the first lifting of depression. Information about drinkers who have a genetic deficiency metabolizing fatty acids was conducted on alcoholics with at least one grandparent of Welsh, Irish, Scottish, Scandinavian or Native American birth (Horrobin, 1980). The family history often includes diseases related to faulty essential fatty acid metabolism like eczema, cystic fibrosis, diabetes and irritable bowel syndrome. Another possible bio clue is a family history of depression and schizophrenia. When the body can't use fatty acids properly, brain levels of prostaglandin E1 drop below normal and depression is one result. Cheever's description of Bill W. sounds like this Yankee may have fit the description of Larson's third bio type. Call him an "O". In this alcoholic, the metabolically induced predisposition to depression *precedes* the drinking. Alcohol in this person's brain immediately lifts depression by activating what prostaglandin E1 is available. But because this brain is not good at making new Prostaglandin E1, the ability of the alcohol to reduce depression diminishes over time. Other bio clues that will help identify the O type include tremors, irritability, tension, hyperexcitability and convulsions. In Horrobin's 1980 study in the British Medical Journal, 83 % of treated alcoholics who were low in essential fatty acids remained sober at one year, while 28% in the placebo group were sober at a year. The treatment was supplemental fatty acids, the specific nutrients their brains needed to correct the error in their metabolism. Without such help, the sober "O" will remain depressed.

### H: Hypoglycemic Drinkers

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Sorting out bio clues is not always a cakewalk. Some of the symptoms overlap. As the diseases progress, secondary problems develop from the alcohol toxicity and breakdown of the body that blur the lines. One of these is insulin regulation, a condition which is, in this author's opinion, a flagrantly under-considered point in the study and treatment of alcoholism. There are two main avenues for consideration. Hyperinsulinemia, or the tendency to over produce insulin, is the predisposing factor leading certain vulnerable people to drink. But hyperinsulinemia also *results* from chronic consumption of alcohol across the spectrum of alcoholic bio types.

Larson does not recognize the hypoglycemic drinker as a real alcoholic. Compared to many of their drinking brethren, the pure "H alcoholics" are light weights. They are not likely to tolerate large quantities of alcohol, however what they do drink can wreak havoc on their health, relationships, and sense of well being. Their bio clues include craving alcohol, craving sugar and other carbohydrates, experiencing a quick emotional lift when they take a drink followed by drowsiness, light headedness or confusion. Female H alcoholics are likely to crave more alcohol pre-menstrually.

Because trouble with insulin regulation so often expresses as or with emotional and psychological problems (again: shakiness, mood swings, irritability, emotional instability, sudden fatigue, mental confusion and the behaviors associated with these discomforts), recognizing its bio clues should be part of the standard repertoire for all counselors, not just counselors of addicts. Why hypoglycemia is likely to crop up ultimately in all alcoholics will soon be described.

### A: All Others

Joan Mathews-Larson is not the only one treating alcoholics according to underlying biological problems. Blum's (2001) work with dopamine revealed it to be the "pleasure" and "anti-stress" molecule, released into synapses 100 times more during a stressful event. Alcohol and other drugs reduce anxiety and depression by temporarily enhancing neurotransmitter function. In his consideration of the gene that rewards alcoholism, Noble (1996) predicted that the dopamine receptor gene, implicated in more than just alcohol abuse, would not be the only gene implicated in addiction to alcoholism, nicotine and cocaine.

"All the others" includes alcoholics whose drinking may have less to do with their biology, whose biological underpinnings have not yet been sorted out, or whose problems are so intertwined as to defy easy categorization, like the multiply challenged Native Americans. For example, some Native American alcoholics are likely to have at least two genetic risk factors, allergy (Daupice, 2004) and Omega 6 deficiency, in addition to profound social pressures. These are not necessarily hopeless cases, however. It is not always necessary to have a perfect diagnosis to find a workable solution. Biological restoration and a sobriety supporting lifestyle may help anyway. As in the 12 step approach, you don't have to understand electricity to turn on the power.

In an effort to propose a way of thinking about the alcoholisms that creates a flexible enough definition to use one word, "alcoholism", to cover all the bases, there has to be a place to put the yet-to-be understood interaction of genetic vulnerability and stress. The complicated interactions of variables and the physiological response to stress vary considerably among individuals (National Institute on Alcohol Abuse and Alcoholism, 1996). Also it is still incompletely understood to what extent the strong familial nature of alcoholism is genetic and how stress interacts with other mutable and immutable pieces of the puzzle. The NIAAA commentary on alcoholism and stress used a very broad definition of stress, saying that scientists mean the many objective physiological processes that are initiated in response to a stressor. How these stressors affect drinking involves complicated interactions with possible genetic factors, co-morbidity, drinkers' expectations, the

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intensity of the stressors, and a person's sense of control, available support, and so forth. Once again, how some Native Americans interact with alcohol provides a good example.

Some American Indians experience multiple genetic and other risk factors and are of special concern to multicultural counselors. They experience the highest incidence of both type II diabetes and alcoholism (Daupice, 2004). Daupice noted that historically these natives comprise the population most recently exposed to the cereal grains and therefore most acutely affected by the allergy problems. But the "O" type problem with prostaglandin deficiency depression also occurs in this population (Larson, 1997). Evolutionary pressures winnow down the expression of alcoholism in a population over time (Milam, 1983). It is argued that recently exposed populations of indigenous peoples are suffering increased problems with diabetes and alcoholism worldwide specifically because these evolutionary pressures have had less time to play out on this human terrain (Daupice, 2004). In order for this population to successfully address the portion of alcoholism due to diet-related genetic predisposition, they must return to something more like their natural diet. In the case of American Indians, that would be a diet high in traditional protein and fiber and low in carbohydrates, selected grains and refined foods. A return to nature or re-naturing process is required.

### How We Have Failed Them

For nearly three quarters of a century alcoholics have been reading stories in the big book that tell them over and over their bodies are not only different from non-alcoholics, they're different from each other. For nearly three quarters of a century alcoholics have been standing up at meetings by the millions sharing stories that reveal this is not just one underlying disease. And for nearly three quarters of a century the institutions that treat alcoholism have failed to recognize how biologically individual each alcoholic is. Alcoholics must leave the herd and be heard.

### Where Counselors Fit In

In what ways can counselors be effective against liver enzymes or a genetically transmitted allergy or a malfunction in the metabolism of essential fatty acids? In many ways, but only when the disciplines and institutions that treat alcoholism learn to collaborate on treatments that match the solutions to the problems as they exist in the natural reality of each individual alcoholic. When each of the disciplines lays claim only to its own legitimate slice of the pathology pie, addicts will stand a fighting chance.

Larson's bio types, among others, demonstrate how the discipline driven nature of health and mental health care perpetuates the suffering of the group of people we collectively label alcoholics by not recognizing how different they all are. In the early stages of drinking, alcoholics are the most biologically distinct from one another. The stories of their very different reactions to drinking tell us over and over that their bodies interact with alcohol in different ways. The treatment of heavy drinkers and alcoholics needs to straddle many discipline boundaries in ways that reflect the natural reality of the individuals. For example, some problem drinkers are primarily identified for their alcohol problem because that's what brings them into treatment. Some may drink as much but pop up in a doctor's office with a medical problem like diabetes, others in marriage counseling, etc. Practitioners of each profession validate and magnify those aspects of pathology to which their discipline lays claim. An alcoholic's treatment may depend initially on something as random as which professional's door he entered through.

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Let's look at an example of an early drinker who is not yet so far gone that he qualifies for the label "alcoholic". If he entered naming depression and he started in a doctor's office with HMO coverage, he will be treated one way. If he entered naming depression and he started in a psychologist's office and he's a self-pay, he is likely to be treated another way. If he entered naming depression and he started in an agency and has no coverage, he will be treated another way. That he has a problem with alcohol may or may not rise to the surface. The treatment he receives may partially match the etiology of his problem, but not necessarily. Taking another example, if PMS is the most urgent symptom of a woman's heavy drinking, she may enter treatment through the door of an endocrinologist, gynecologist, general practitioner, or personal trainer. If the biggest symptom is anxiety, the first door may be a psychotherapist's or psychiatrist's. If the biggest symptom is violence, the door may be to prison; if marital stress, the couple's counselor's door. In other words, the earlier stages of the disease process that culminates for some in irreversible dependency on alcohol look like problems that many of us don't even think of as alcoholic. But no matter what the dominant symptom or entry point, that portion of suffering that relates to deranged biochemistry is likely to progress if it is not addressed biochemically.

For more information and a self-test to help establish bio type, see Larson's [Seven Weeks to Sobriety](#).

### Reactive Hypoglycemia a.k.a. Low Blood Sugar

#### An Elephant

From the Big Book:

So he got me a cup of coffee and a piece of cake, and sat me  
down...(p. 304)

Hypoglycemia is the elephant in the living room of addictions treatment. It has been hanging around since a surge of interest in the 1960s and 70s; it has survived a debunking and is enjoying a revival in the general population with newer research supporting the Atkins Diet and its spin-offs. There is so much research supporting a role for low blood sugar as a risk factor for problem drinking (Larson, 1991), a consequence of alcoholism, and a risk factor for relapse (Ketcham & Asbury, 2000) that it is tempting to conclude that there is some denial going on around this elephant.

#### Symptoms

To understand why low blood sugar is a legitimate area of study for counselors of many description, one need only consider the short list of symptoms associated with it: anxiety, depression, hostility, cravings, irritability, emotional instability, mood swings, sudden fatigue, mental confusion, light headedness, and dizziness. Many of these symptoms are sometimes counseling sensitive issues. But not always. Sometimes they are purely biological in origin. All of them are indicators that the brain does not have enough fuel to function. To correct these unpleasant feelings, the body responds in several ways. It can create urgent messages (cravings) to seek a source of sugar. It can create urgent messages to find another means of releasing sugar into the blood stream (like cravings for caffeine). It can pump adrenaline to force sugar out of storage for delivery to the brain. In the first two instances, the body sends messengers or cravings to elicit a behavior (ingesting something) that will solve the problem. In the last instance, it goes into hormonal emergency mode to get sugar to the brain without help from a behavior. When

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that happens, the body goes into a fight or flight response with rapid pulse, sweating, anxiety, or panic attacks. (Ketcham & Asbury, 2000).

In other words, the urgent symptoms we associate with anxiety disorders, bad behavior, and depression are the same symptoms as low blood sugar and the body's attempt to raise it. Alcohol is one of the fastest ways to get relief from the symptoms, regardless of the physical or emotional reason for the plunge in sugar.

Alcohol immediately brings the blood sugar up into a comfortable range; the body feels relief. As Milam and Ketcham (1983) put it, that makes alcohol very attractive first aid for anxiety and withdrawal. But because of the exhausting seesaw relationship between the alcohol or sugar that drives blood sugar up and the insulin action that slams it down, it's easy to see that chronic use of this handy first aid will eventually break down the body parts that regulate blood sugar. Sober alcoholics will be able to tell from their symptoms if their sugar is stabilized. If anxiety in the body and the other symptoms of physical discomfort listed above persist after the alcoholic stops drinking, he or she can improve the chances of comfortable sobriety by making the lifestyle changes necessary to stabilize blood sugar.

There is no medication that substitutes for a healthy diet. As Bland (1987) put it, the brain is one of the parts of the human that is the most sensitive to nutritional status. When blood sugar changes rapidly or the brain is suboptimally nourished, psychological disturbances, including a feeling of inability to cope, are common. They also tend to linger. Desoto et al. (1985) found in a Johns Hopkins University study that depression, anxiety, inferior feelings, etc. went on for years in abstinent alcoholics.

### Craving was a Good Thing

Since this view on alcoholism is meant to introduce counselors to a holistic way of approaching the subject, it is necessary to look at the role of blood sugar from a historical, evolutionary perspective. In terms of the history of the human body, developing a means of forcing us to search for and store brain food was crucial to survival during famine.

Human brains evolved to run on one main fuel: glucose or sugar. In evolutionary terms, using insulin to regulate how animals respond to sugars in their diet has been uniformly successful and predates humans by hundreds of millions of years (Sears, 1995). Our bodies have contrived to make sure we maintain a supply of precisely the right amount of this critical nutrient. The phenomenon of craving is an adaptive mechanism gifted to us by nature to make us do behaviors that are necessary for survival, like ingesting hard-to-find but essential nutrients. These urgent desires lead us to carbohydrate food. We eat it and store it as fat for later use. This is how we survived winters. We can release it and regulate the levels of it with complex hormonal mechanisms (Wiley, 2000). We still have essentially the same bodies as our Ice Age ancestors, and the cravings we experience are all rooted in normal, ancient desires to ingest things that are good for us in their natural forms.

But something went terribly wrong. The taste for sweet that started out as an ancient survival adaptation devolved into a risk factor for addiction as humans learned how to refine, process, and concentrate carbohydrates.

### Alcohol and Sugar

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As humans became increasingly clever about agricultural and refining processes, we were able to please our tastes and meet our desires in ways more intense than our biological programming had prepared us for. We learned how to ferment and distill alcoholic beverages. We learned how to isolate and concentrate sugars. We learned in short, fast ways to quiet the brain's loud demand for glucose. And as we repeatedly met the craving for sweet--read also "alcohol"--our appetites became foolish. The new possibility of ingesting blasts of brain fuel led some humans to addiction.

Nearly three decades ago, Gordis (1976) lamented that the treatment of alcoholism had not improved in any important way in 25 years. Editorializing about the whole disease concept of alcoholism, he said the controversy was about craving and loss of control. He noted that while an assortment of social pressures shape our patterns of consumption, the roots of hunger, thirst and libido are biochemical. This is where hypoglycemia fits in, among the biochemical roots of cravings that shape behavior. Anton (1999) noted that Jellinek first recognized craving as key to dependence, but up until the 1990s, other researchers and clinicians didn't rigorously study it.

Tintera (1974) was among the first to produce research establishing the relationship between alcohol and blood sugar dysregulation. He warned that hypoglycemia predisposes alcoholics to dependency by wearing out the insulin regulating mechanisms of the pancreas. (A sensitive person could also foster habitual drinking just for the effect on serotonin activity, another compelling bio factor that is, however, subject for a different document.) Though sugar and the mechanisms required to handle it came first, the brain is willing to accept the carbohydrates in alcoholic beverages to get a quick boost out of depression.

Early work on the phenomenon of craving was done by Williams (1978), who was one of the first to propose that the desire to drink sometimes rises out of a deranged cellular metabolism. He also acknowledged the roles of enjoyment of the taste, enjoying the effect, and social pressure. In Williams' observation, the body wisdom that informs our decisions about what to ingest turns to "body foolishness" in sensitive individuals. He laid the foundation for subsequent work like Larson's and Beasley's when he proposed that the only way to make sense of the differences in urges to drink is that there exists an underlying biochemical individuality in all drinkers. Although pertinent to addiction treatment, his material was out of the view of professions that treat alcoholism, stored in a different discipline's data base. Nevertheless, the differences in urges to drink have long been evident wherever alcoholics tell their stories. Behavioral researchers, on the other hand, have de-emphasized the physiological urges, stressing more the relationship between the behavior of drinking and environmental stimuli that bring about the behavior (National Institute on Alcohol Abuse and Alcoholism, 1989).

### Craving and Insulin Regulation

The main regulator of blood sugar, insulin, is produced in the pancreas. In simplest terms, it is one side of the biological seesaw that regulates blood sugar. Insulin acts as a key to cells, giving access to sugar from the blood. In doing so it drives down blood sugar and protects us from diabetes. It throws the cellular switches that allow excess sugar to be stored as fat. Supplying the brain with just the right amount of glucose is so crucial to survival that the messages we get when the supply is low are urgent: cravings, as well as irritability and mood swings, that tell us, "Do something!" This do-something message is very loud but not always specific, leading some to eat, some to drink, some to smoke or seek caffeine, and some to hard exercise or therapists. Acknowledging that there is more going on here than just low blood sugar, it is nevertheless true that urgently low blood

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sugar produces dramatic symptoms. Venable (2003) includes caffeine on his list of over-the-counter drugs that complicate recovery, noting that most recovering clients and many treating staff are unaware of their powerful influence. In the case of coffee, the rush triggers release of stored sugar. So even a long-time sober alcoholic will be riding the physical and emotional seesaw of insulin dysregulation if he doesn't stop taking caffeine.

Even though we know why cravings exist and that many alcoholics have them, scientists have not yet developed a common, valid definition of craving (Anton, 1999). It's not just about hypoglycemia. Some research suggests that prolonged use of alcohol causes changes in brain cell function which, in the absence of alcohol, create imbalances that result in craving. Pioneering work on the use of amino acid therapy was performed by Blum (1991), who demonstrated that four key amino acids could turn off cravings. Blum (2001) referred to the harmonizing of neurotransmitters as the brain reward cascade. When there is a disruption of the delivery of dopamine to its receptors, the results are a sense of unease or anxiety that lead to seeking a substance or behavior like gambling that provides relief.

Admittedly, there is a lot more to cravings than just low blood sugar. From Blum we know that alcohol, glucose and nicotine all cause preferential release of dopamine. But low blood sugar is a very loud factor in the body's call to ingest something, and it is established that higher craving predicts relapse (Bottlender & Soyka, 2004). How each sensitive individual's body responds to the do-something message and how each person interprets the message have a lot to do with the problems they develop over time and which offices they land in as the problems progress. As the insults mount, the body may become insulin resistant, and the body can fail in a number of ways. The possibilities include loss of control of their weight, in which case they land in the office of diet doctors (See Atkins, 1992; Heller & Heller, 1997; Schwarzbein, 1999). Or they may end up in treatment for heavy drinking or alcoholism (Beasley, 1994; Larson, 1997; Milam, 1983). Or they may end up with stress-related health problems, anxiety and depression that send them to the doctors' or therapist's office (Ross, 2002), often looking for medication (Milam & Ketcham, 1983).

The important thing for counselors to know is that it is very expensive for the body to handle these emergencies chronically. The consequences of this disease process often manifest first as counseling issues like anxiety, depression and foul mood. Poor insulin regulation is also a risk factor for many chronic degenerative diseases of the modern environment. Most notably, alcoholism, obesity, and diabetes play out on a related biochemical spectrum. Informed counselors are ideally positioned to prevent the progression of these diseases by being sensitive to the bio tip-offs. But what kind of counseling do anxiety, depression and foul mood call for? To the extent that their etiology is in poor insulin regulation, it must be lifestyle counseling.

### Craving Changes Over Time

Depending on where the drinker is in the progression of his disease process, the nature of craving changes over time.

Milam and Ketcham (1983) pointed out that, early on, craving relates to the benefit of feeling good when taking a drink. At this point, the drinker can still exercise considerable control. Low blood sugar is apt to be a key trigger in some but not all individuals. Later craving is an indication of need; the alcoholic's cells are physically dependent. Hypoglycemia may also play a role here, but by this point the craving mechanisms are a lot more complicated because there's more cell damage. Craving devolves into a means of withdrawal avoidance and overpowering obsession. This is the stage at which hypoglycemia

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is virtually universal because the "first aid" response has exhausted the body's mechanisms of insulin regulation.

### Adrenaline and Stress

Although insulin and adrenaline are intimately connected, counselors are perhaps more conversant with the effects of adrenaline and stress hormones than with insulin. These are the chemicals we associate with fight or flight, the ones that bail us out in emergencies and see us through high stress situations. Chronic use of alcohol results in an increase of adrenaline (National Institute on Alcohol Abuse and Alcoholism, 1996). A discussion of alcoholism is not complete without a consideration of how the effects of stress on the body are like the effects of ingesting sugar or alcohol. In its parsimony, nature often makes one biochemical serve multiple purposes (like testosterone, which governs sex drive in both sexes and aggressiveness). When adrenaline is produced for any of the reasons adrenaline is produced, it goes everywhere in the body that adrenaline goes and does everything adrenaline does, including damage.

The body pays a big price when adrenaline continually runs. Ingesting blasts of brain-quieting sugars or alcohol has serious consequences for physical and mental health as they relate to the production of adrenaline. Counselors probably already know that we associate certain emotions and behaviors with adrenaline, our natural caffeine, including fight and flight, but also agitation, irritability and jitters. What may be less known is that the blood biochemistry following a reaction to sugar or alcohol is the same as the blood biochemistry in response to a threat or stress as it relates to adrenaline. It's a body emergency. In the case of the scare, the adrenaline response is immediate. The insulin reaction comes later if adrenaline has forced too much sugar into the blood. In the case of the blast of sugar or alcohol, the adrenaline response follows after the sweep of insulin that forces blood sugar too low in people whose regulatory mechanisms are poor.

Alcoholics both self-medicate for stress with alcohol and create stress through their drinking (National Institute on Alcohol Abuse and Alcoholism, 1996). Alcohol Alert made a very holistic comment noting that since drinking behavior and an individual's response to stress are determined by multiple genetic and environmental factors, we might understand drinking behavior better if we studied the link between alcohol consumption and stress. Over time, the seesaw action of insulin responses to alcohol and adrenal responses to over insulinating exhaust the glands, just like stress exhausts glands. When adrenal glands are shot for any reason, people lose their stress tolerance. Loss of stamina and fatigue become frequent symptoms. Ross (2002) provided a list of symptoms, bio clues to adrenal stress, that may be very familiar in counseling settings: depression or rapid mood swings, lack of mental alertness, headaches, not feeling rested upon awakening, feeling tired all the time, feeling emotionally overstressed, need for caffeine, low tolerance of loud noise and light, tendency to get a second wind at night, feeling weak and shaky, sweet cravings, loss of tolerance for alcohol. Alcoholics who exhibit these symptoms may benefit from emotional support, but they need adrenal support and a stabilizing diet of whole foods too. And providing adrenal support will facilitate the other homework by improving stress hardiness and the physical terrain on which the emotional problems play out.

Bearing in mind the lists of psychological and physical symptoms that go along with high demands on the glands that handle stress, it comes as no surprise that people with panic disorder and alcoholism cannot distinguish between the symptoms of panic and withdrawal (National Institute on Alcohol Abuse and Alcoholism, 1991). Panic and withdrawal are marathons for the same body parts. Though drinking, stress, low blood

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sugar and adrenal exhaustion are closely related in body terms, treating alcoholics with an eye toward their hormonal problems is not part of the conventional wisdom. Larson attributes this to the fact that for decades hypoglycemia has been disparaged by the medical community as a fad disease.

There are numerous other everyday challenges to biochemical balance. In addition to stress, alcohol, and sugar, endocrinologist Diana Schwarzbein (1999) lists dieting, aspartame, tobacco, steroids, stimulants and other recreational drugs, lack of exercise, unnecessary thyroid treatment and prescription and over the counter drugs as culprits. Over time, these exposures can create low blood sugar havoc leading the body to voluntary and involuntary ways to provide more brain food. Whether the stress trigger is life stress, caffeine, alcohol, or sugar, the demands on the adrenaline and insulin mechanisms are heavy. As discussed above, because our cravings lead us to the fastest punch (alcohol or sugar instead of whole foods), rush after revving rush eventually lead to compromised insulin regulation in heavy drinkers and bouts of hypoglycemia (fatigue, depression, fuzzy thinking, sugar and alcohol cravings, etc.). Counselors alert to these bio clues can serve as invaluable lifestyle coaches for these confusing symptoms that are often, but not always, medication- or talk-sensitive. If not interrupted, the cycle sets the stage for diabetes, obesity, and other chronic health processes.

### Hypoglycemia Has A Bad Rap

Hypoglycemia just means low blood sugar. Its role in many disease processes has been passionately disputed. Bill Wilson collected research on hypoglycemia and sent reports to the AA physicians in the 1960s on the work of, among others, Abram Hoffer. Dr. Hoffer is one of the founders of the field of orthomolecular psychiatry. The term orthomolecular, created by Linus Pauling, describes the practice of preventing and treating disease by providing the body with the natural substances it requires in the optimal amounts (Hoffer & Walker, 1978). Disease is treated with vitamins, amino acids, trace elements and fatty acids in the amounts sufficient to correct biochemical abnormalities. So, for example, an orthomolecular psychiatrist, might treat a depressed person with a vegetable and protein-rich whole food diet and the building blocks of serotonin instead of SSRIs that just mask the deficiency state. Hoffer's work at the time included researching the blood sugar stabilizing effects of niacin, or vitamin B3, which he believed could prevent the cravings caused by hypoglycemia in recovering alcoholics (Cheever, 2004).

But there was something inflammatory among the professions about low blood sugar. Saunders and Ross (1996) blame enormous individual variation in responses to lab tests for the gulf that lies between the camps of those who do and don't see a large role for low blood sugar in mood, behavior, and addiction. The difference between the standard blood sugar level test and the 5- or 6-hour glucose tolerance test recommended by nutrition-oriented physicians is the difference between a snapshot and a video tape. If readings aren't taken all along the curve, the lab test may miss important information. Symptoms are produced not only by a low number but also by the rapidity of the drop as insulin opposes and drives down blood sugar. The most telling information is provided by blood drawn when the person is symptomatic, with the fatigue symptoms evident in low spots and agitation symptoms evident as adrenaline rushes to raise the sugar level.

### Incidence in Alcoholics

Bearing in mind that alcoholism may or may not be a disease, that if it is a disease it's at least four, that the diseases of alcoholism each have their own continuum, and that

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every alcoholic is bio-chemically distinct from every other alcoholic, there is still a biological factor that runs consistently through the body experiences of alcoholics. It's low blood sugar. Milam and Ketcham (1983) reported the figure at over 95% for both early and late stage alcoholics. In Larson's (1997) study, it was 88% of late stage alcoholics. Cheraskin (1971) found low blood sugar in 75 to 90% of alcoholics. Larson also explained how low blood sugar is a factor in the lighter problem drinking, especially of woman, who become dependent on but not necessarily tolerant of alcohol.

### The Logical Outcome: Relapse

Like experts in any field, the proponents of cell restoration have their own take on why relapse rates are so high. To the extent that any given recovering alcoholic is drawn back to drink for reasons mediated by his body, low blood sugar is likely to play a role. Grappling with low blood sugar can continue well into sobriety. Outcomes research supports the idea that multiple methods of treatment may be required for any one individual and that what works for one won't work for another (National Institute on Alcohol Abuse and Alcoholism, 1992). Biery, Williford and McMullen (1991) reported in the Journal of the American Dietetic Association that nutrition therapy added to a traditional program based on the 12 steps resulted in patients experiencing fewer hypoglycemic symptoms, lower sugar intake, less craving for alcohol, greater nutrient intake, with a greater number abstaining from alcohol. Nutrition-oriented researchers and practitioners (Rogers, 1978; Gant, 2002) conclude that relapse is the logical result of attempts to treat a problem influenced by biochemical individuality without considering biochemical individuality as a variable.

Counselors who work with recovering alcoholics probably see the evidence of hypoglycemic misery every day: shakiness, mood swings, irritability, emotional instability, sudden fatigue and mental confusion. Left unaddressed, hypoglycemia can be a powerful perpetuating factor, unnecessarily hobbling the wannabe recovering alcoholic. The symptoms of the "dry drunk", as described by Wellman (1954) and Jellinek (1959) are reviewed by Larson (1997) as the symptoms of the underlying physical condition, low blood sugar. She notes the identical signs: irritability, depression, aggressiveness, insomnia, fatigue, restlessness, confusion, desire to drink and nervousness. In Beyond the Influence, the list of psychological symptoms of hypoglycemia prepared by Ketcham and Asbury (2000) includes craving for sweets, moodiness, exhaustion, insomnia, depression, anxiety, irritability, headaches, forgetfulness, nervousness, constant worrying, indecisiveness, mental confusion, crying spells, phobias, difficulty concentrating and temper tantrums. Under physical symptoms they list tremor, heart palpitations, muscle pain and backache, numbness, chronic indigestion, cold hands and feet, sighing and yawning, ringing in the ears, dry mouth, hot flashes and noise and light sensitivity. All of these symptoms are the loud but inarticulate "do-something!" messages of a brain screaming for fuel.

At meetings, these are the people who are looking for sweets, coffee and cigarettes, who don't seem comfortable in their skin, who experience ongoing low quality sobriety. This is not to claim more than hypoglycemia's fair share of the pathology pie, but only to say that it is a nail that must be removed from the foot of the alcoholic if he is ever to walk in comfort again. Sweets, coffee, and cigarettes solve the emergencies of the newly quit alcoholic. They also set him up for relapse.

In Marlatt's (1985) relapse prevention model, the negative emotional states of anger, anxiety, depression, frustration and boredom were associated with the highest rate of relapse. Knowing what we now know about the symptoms of low blood sugar, the question must be raised: What percentage of relapse are we as counselors willing to assign

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to hypoglycemia: 5%? 43%? Can we as care givers look at Marlatt's assumptions about interpersonal conflict as a trigger for relapse and conclude that relapses are *totally* unrelated to the irritability, fatigue, shakiness and mental and emotional misery that are common signs of poor insulin regulation? It is a disservice to earnest alcoholics and the people who treat them to perpetuate the idea that treatment is complete before these disabling symptoms are dealt with biologically to whatever extent they are biological in origin. Yet this is what we do when we keep the focus on models, or pharmaceutical solutions, or spiritual solutions, or psychological solutions or any solutions that don't directly address the etiology of these discomforts.

### Alcoholism is a Diet-related Disorder

There is a world of useful information for alcoholics and counselors who read beyond the literature of the fields that conventionally treat this addiction. The fields of nutritional psychology, nutritional biochemistry, environmental medicine, and orthomolecular psychiatry teach us that healthy cells are necessary for complete and comfortable recovery. Their messages may come as a relief to exhausted care givers and frustrated addicts because getting back to nourishing cells can improve the outcomes of other therapies by making sobriety more physically doable. In a 1999 communication designed to attract applications to develop and evaluate new medications for treating alcoholism, The Institute on Alcohol Abuse and Alcoholism (1999) referred to an unprecedented opportunity to develop and evaluate new medications for eventual use in clinical trials. It is the bias of this author that it is senseless to launch such Herculean efforts to develop new drugs when protocols based on simple bionutritional replenishment are already achieving results well beyond the community standard of abstinent and stable rates (Larson, 1997; Ross, 1997). These protocols deserve a look. They are based on non-addictive natural substances. They are not, however, as profitable as those produced by the drug industry. So alcoholics are affected by a perverse financial pressure that rewards treatment failure and punishes prevention.

Allowing for tremendous differences in the details because of biochemical individuality, the basic idea is to help each alcoholic restore his physical body to what it would have been had it not been exposed to processed, refined, concentrated and therefore toxic drug-like foods and substances. The way in suggests the way out. In the case of blood sugar regulation, this means returning to an unrefined diet more like that of our ancestors. The unifying theme -- what's simple about this approach -- is that even allowing for extremes of biochemical individuality, the principles of body restoration are the same: Nourish the body with whole foods and the building blocks of healthy cells and the body responds by healing.

Julia Ross (1997), whose Mill Valley, California center claims "success rates" of 70% to 80% with alcoholics, has designed a program of amino acid therapy similar to Larson's, which claims similar success rates through cell restoration. The basics of the protocol include making sure the brain has plenty of fuel and the building blocks of the four major pleasure chemicals, GABA, our natural sedative; dopamine, our natural stimulant; endorphin, our natural pain killer; and serotonin, our natural Prozac. Key elements include taking in adequate protein, correcting deficiencies, and reducing stress, which uses up our natural feel-good chemicals. To manage the hypoglycemia, she uses chromium supplementation and a junk-free diet. That means only whole foods, no sugar, white flour, coffee or Nutrasweet. In Ross's view, these are more like drugs than food. Like alcohol, they require little digestion and offer no nourishment. They are a toxic burden and can be

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highly addictive. Ross reported that clients who were too agitated to meditate were able to do so after calming down their bodies biochemically.

### Plan B: Bibliotherapy

If treatment centers like those of Larson, Ross, and Milam were more numerous and accessible, these destinations would be recommended. For those who can't get there, the library becomes a second choice. While the limits of the counselor's license forbids nutrition counseling, it's still not illegal to recommend reading. Bibliotherapy may be the answer for professionals hamstrung by a regulatory environment that would vilify them for practicing medicine without a license for recommending a healthy diet. Fortunately, there are some medical doctors and psychologists in basic agreement on the biological approach to normalizing blood sugar and neurotransmitter function. These include endocrinologists (Schwarzbein, 1999) in The Schwarzbein Principle and other medical doctors, for example Gant (2002) in End Your Addiction Now and Beasley in How to Defeat Alcoholism (1989) and Food for Recovery (1994). Ross (2002) gives the perspective of nutritional psychology in The Mood Cure, which describes in words of one syllable how to use nutritional supplements to restore neurotransmitter function instead of pharmaceuticals that suppress symptoms. She and Blum (2001) have helped thousands of addicts since 1982 with amino acid therapy. For information on the therapeutic use of individual supplements, see Braverman (1997), The Healing Nutrients Within or Chaitow (1988), Amino Acids in Therapy. Nutritionist Joan Mathews Larson (1997) has offered a residential treatment program with a reported 74% abstinent and stable rate since 1981. The program is described in Seven Weeks to Sobriety, a book which contains enough information for some motivated drinkers to stop without the residential program.

### Lifestyle Change

This culture suffers no paucity of information on how to use diet and lifestyle to support comfortable sobriety. But it's hard to translate the information into a new way of living, particularly when lifestyle change isn't supported by AA or third party payers and when care providers are limited by the artificial boundaries of their disciplines. Further, there is the sad fact that lifestyle changes don't support the profit motive of the big industries that treat alcoholism.

At best, we are still looking at Milam's portrait of professionals working in narrow compartments, oblivious to the work by others outside their fields. At worst, we're seeing suppression of information that conflicts with the commercial interest of those in addiction industries. At very least, we're experiencing inertia around entrenched ideas. The food savvy researchers have no doubt that compromised insulin mechanisms underlie major degenerative processes, including alcoholism. But the information has not seeped into the models of the institutions that treat alcoholics nor, of course, the rooms of AA, which has no opinion on outside matters. In the world of Blum, Ross, and Larson, there is ample research to confirm that using nutrition to stabilize addicts biochemically and manipulate the molecules of emotion is the missing link in long term recovery.

Digging deeper into science won't help us apply what we already know but ignore. It's up to the shallower but broad thinkers, including foremost the alcoholics and the people who counsel them, to use this information for long term after care.

### It's Simple But It May Not Be Easy

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As noted, biochemist and vitamin researcher Roger Williams (1973) made some of the earlier science-based recommendations for dietary interventions. The basic recommendation hasn't changed. Rogers said that alcoholics should eat the best possible food to rehabilitate brain cells and stabilize blood sugar. The way in suggests the way out. If alcoholism's biological side is fundamentally a denaturing process, then the solution must include a re-naturing process. Not unexpectedly, there are lots of experts who disagree on the details and many of them have written books. There is general agreement, however, that the diet should be based on single ingredient, nutrient-dense whole foods rather than refined and processed foods that destabilize blood sugar. It should include lots of fresh vegetables. There should be substantial protein to provide amino acids; the conflict is over whether the protein should be animal or vegetable source. (The books listed above include animal protein, especially organic meats and fish.) Grandma probably provided the best advice for keeping it simple: Choose the foods that are closest to being picked off a plant or sliced off an animal.

### It's Not Just About Low Blood Sugar

Although hypoglycemia is both a risk factor for and a consequence of alcoholism it would not be very holistic of the author to claim more havoc for it than it creates in nature. Repairing neurotransmitters is critical. And the details depend totally on the biochemical individuality of each addict. Ideally, what alcoholics and their counselors will take away from this discussion is a twofold appreciation: one, of the legitimate role of the body in mediating mental, emotional, and psychological experience; and two, that relief will only come if each alcoholic is treated as a biochemical individual.

Even the virtually universal presence of blood sugar problems in chronic alcoholics is just one variable.

### Like Slides at the Water Park

From the Big Book:

Somehow our bodies had reached the point where we could no longer absorb alcohol in our systems. The why is not important; the fact is that one drink will set up a reaction in our system that requires more, that one drink is too much and a hundred drinks are not enough. (p. 355)

Before there were explanations for why alcoholism develops differently in each alcoholic, the quoted AA alcoholic was right; the why was not important. AA was his best bet. But with what we know now about the biological underpinnings, the why is an important key to the biological risk factors, particularly for relapse in any given alcoholic. Once an alcoholic stops drinking, he still has all the biological problems he had before he discovered that alcohol relieved his symptoms.

Because we treat alcoholism in rigid disciplines, it's a bigger problem that alcoholism can only be diagnosed in reverse, but it progresses forward. In other words, the problem drinker has to get bad enough to meet several dire criteria to end up in the hands of a person licensed to do addictions counseling. In the years before, he or she has mounting problems that may land them in some other counselors' offices, but because the disease process hasn't yet merited the label "alcoholism", the unfolding alcoholic's emerging alcoholism may not get effective attention. The reverse/forward problem highlights the artificiality of the boundaries between counseling and other fields that claim a piece of

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alcoholism treatment. It demands that an end-stage disease process be achieved before naming and treating the problem. It also creates artificial boundaries between counseling and addictions counseling by focusing on the attainment of end-stage symptoms instead of the presence and nature of a problem.

In a consideration of the dispute over the psychogenic versus biogenic nature of alcoholism, Milam (1992) claimed that all longitudinal studies have shown that the psychopathology of alcoholism is neuropsychological in origin. This is disguised because alcoholism is never diagnosed until after character and personality are distorted and normal emotions impaired. Milam maintained that attempts at compromise, like Jellinek's disease concept, will fail because the two views are mutually exclusive. But let's look at what happens when we suspend our assumption that alcoholism is one disease and operate from a different concept of how chronic alcoholism develops.

In trying to come up with an appropriate analogy for the role of biology as Larson configures it in the development of alcoholism, the image of a water slide park worked best.

In this representation there are numerous slides, each with its own course, character, and facilitating and inhibiting factors. It's a very different ride for each bio type, but all slides ultimately dump the rider into the final pool, chronic alcoholism, if the person doesn't bail out in time. The ride for the allergic/addictive alcoholic is bumpy, with lots of ups and downs representing his binges and this bio type's propensity to personality changes. The rider with the liver dehydrogenase II enzyme has a great time initially. He gets a long, fun ride in the beginning because his powerful liver holds up, he has no hangovers or adverse effects until the poison breaks him down and dumps him in the pool. The omega 6 fatty acid alcoholic starts out low and ends up low. From the beginning, he's self-medicating for depression, so his is a zigzag course, with each drinking experience resulting in worse depression before he gets dumped in the pool. The hypoglycemic drinkers have a path at the water slide park too. They ride the lazy river. These drinkers don't slide down into the pool, but they don't find it easy to pull them selves out of the drink, either.

If we are going to persist calling all these problems by one name, at least we can come up with a fluid understanding that more accurately represents the nature of the beast. The concept of bio types, each with its own slide into alcoholism, may have no value for those who work with chronic alcoholics in precontemplation. But in the hands of addicts and families who are earnest about recovery, knowing one's bio type is a powerful tool. It's the key to ending craving and healing the body. To the extent that an addict's relapse risk rests in his urges and discomfort, resolving the issues related to bio type is the answer. For counselors in other counseling settings, a basic understanding of biological individuality could be a powerful tool because it helps sort out those who must remain abstinent from those who may be able to manage drinking, and it points to the biological homework that needs to be done to reduce or eliminate dependence. The hypoglycemic drinker is a good example of the latter. A person self-medicating for anxiety may never achieve tolerance, may never enter full blown alcoholism. But this person certainly presents in counseling settings with anxiety, depression, and irritability that spill into relationships, acting out behaviors, and poor concentration. This person is also at increased for obesity and diabetes.

Standing back, we can see that as alcoholics approach the pool of final destination, they look more alike than they did before they took their first drinks. At the beginning of their respective slides, they are more biologically distinct. But as heavy drinking breaks

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their bodies and spirits, there is increasing pathology on all fronts. Medical doctors, psychologists, AA, family counselors, Al Anon, etc. can find plenty of pathology reflecting their biases of what alcoholism is all about once the alcoholic hits the pool of full blown addiction. And while alcoholics' individual experiences resemble each other more and more as their bodies break down in the drink, it was biology that determined which slide they'd ride.

Although beyond the scope of this document, it should be reiterated that if the concept of bio types were to catch on, the implications for insurance companies and treatment facilities would be enormous. Insurance companies don't typically reimburse for long-term relapse prevention. Nutritional supplements, while usually less expensive than pharmaceuticals, can be too expensive for alcoholics. The implications for pharmaceutical companies would be horrific as the treatment for biorestitution requires relatively inexpensive, unpatentable vitamins, minerals and amino acids for brain repair as well as lifestyle changes and diet that offer no profit motive to drug manufacturers.

The corporate giants have plenty of company separating alcoholics from effective treatment. Readers interested in the issue may enjoy Stanton Peele's (1995) Diseasing of America, which attributes the American love of medicalizing to the fact that the reward structure is built on stuffing as much into the doctor's bag as possible.

### Discipline Driven Health Care

From Susan Cheever (2004), My Name is Bill

A.A. survives partly because of its bylaws, first called guidelines and now called traditions, which prescribe an anti-hierarchical democracy in which each person has an equal voice, and no money or power is allowed to accumulate (p. 35).

Disciplines commit treatment prevention in a variety of ways. Each generates technical lingo that is clear to its members but hard for others to understand. Clinicians in the same and neighboring fields sometimes complain about the inaccessibility of the research because of the language. Code numbers are created that advance or slow down people's progression through the system. Code numbers also determine who will get reimbursed how much, based on criteria that often have little to do with how the person, his family, or society will suffer if he doesn't get treated or gets treated ineffectively or he doesn't get treated enough. The author's personal experience is also that practitioners sometimes assign and make a matter of record diagnostic codes that will get the patient reimbursed, whether they reflect the real pathology or not.

If the priorities of institutions, professional protectionism, intellectual territoriality, DSM IV codes, or reimbursement schemes reflected the ways in which humans experience their addictions they might make sense as criteria for treatment. But they don't. Humans experience their pathology simultaneously and integratively in their minds, bodies and souls. That is to say, the human experiences his psychological suffering, his addiction, his endocrine disruption, his digestive maladies, his relationship woes, his sexual dysfunction, his economic and social stress, etc. as a simultaneous experience. At any given moment, he may be a better candidate for the psychologist, the endocrinologist, the family counselor, etc, but all aspects of his experience are always on his radar screen. The boundaries between them are artificial and are there for the convenience of the disciplines that do treatment, not for the benefit of the sufferers. The unifying condition underlying all the

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problems in all sufferers is that they are experiencing them on the terrain of their organisms, their bodies.

No one would argue that the condition of the playing field affects the game. Nor that the maintenance of the highway affects the quality of the traffic. Nor that the filth in an engine affects the function of the car. We aren't suspicious of oil changes or preventive maintenance. But we uniformly disregard the maintenance of the body as the cornerstone of relapse prevention. This is because the field that governs preventive maintenance -- nutritional biochemistry -- is not as powerful as the field that governs treatment -- medicine.

There is plenty of misery for the disciplines to share. But it's hard for people trained in narrow disciplines to share because western science relies on making clear distinctions and rigid boundaries. This pressurized environment has been host to productive but also non-productive controversies. Milam (1993) highlighted the fiasco over the Sobell's research on controlled drinking as a viable treatment option in the 1970s and 1980s. He also highlighted Herbert Fingarette's (1988) book *Heavy Drinking* that shifted focus from treatment to punishment of abusers, flipping society back into old moralisms. For his own part, Milam is vociferous on the subject of the denial of physical addiction, calling it the seminal crime in the drug-crime epidemic. In a position paper on the alcoholism revolution, Milam (1992) opines that a disease concept based on psychiatric causes of relief drinking is tearing the country to pieces and delaying the emergence of the biogenic paradigm.

Science is supposed to keep itself clean and in check with observation, blinded studies, competition, and scrutiny. But scientists aren't the only experts. Addicts and their loved ones are first hand observers and experts on their own experience. The question may not be, is alcoholism a disease, or is it a moral matter, or a spiritual insufficiency, a family disease, or a public health issue. The question is how can we get experts with deep understandings of narrow fields to cooperate with each other for the betterment of addicts? How can we encourage each other to find solutions to problems that are simultaneous, integrated, and highly individual, problems that play out on bodies that evolved long before Anybody created disciplines.

The prevailing models do not offer a system of checks and balances that make sure a patient is getting the treatment that appropriately draws on the available wisdoms, matching treatment to biochemical, psychological, and other needs. Rather, treatment decisions are made in part according to arbitrary matters like whose door the patient entered treatment through, the quality of his insurance, what state he lives in, and sundry other variables that have something to do with the treatment but nothing to do with the problem. It is perfectly appropriate for many disciplines to own a piece of alcoholism. But those that claim more than their fair share of the pathology pie perpetuate the miserable relapse statistics by placing profession priorities before fixing the problem.

A practitioner who approaches an addict from a field-driven position is at risk of searching where his light is better and treating what he understands to the exclusion of things that others understand. Obviously, there's room for solutions that don't perfectly match etiologies. Those who have been reached by a transcendence experience -- spiritual conversion or a fellowship experience -- bypass some of the pathways that others may have to address directly. But scientists do not know which form of treatment works best for whom (Ringwald, 2002). We don't usually know ahead of time for whom which treatment will work best.

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A flexible understanding may work where rigid understandings have failed. For example, the person who has a genetic predisposing factor, a parent who is an alcoholic, and no support in the community may transcend all through a spiritual experience. But another addict who, for whatever reason, doesn't get through the doors of AA may succeed via another route that more closely matches his risk factors, like medical treatment plus nutritional restoration and rational emotive therapy. But for the one who isn't open or ready or didn't walk in the right door, a holistic approach that recognizes and removes all the nails from his foot can increase his chances. In When AA Doesn't Work For You, Albert Ellis (1992) recommends vigilance plus much work and practice. If we know, however, that a particular alcoholic's physical cravings are rooted in a metabolic tendency to depression or allergy to ethanol or deranged insulin mechanisms, vigilance will not be required. Treatment matched to etiology will. If, as Blum (2001) suggests, neurotransmitter depletion is at the core of addiction and is influenced by psychological and spiritual factors, we can depend on achieving high relapse rates until we give the brain a biological chance to experience well being.

The need for vigilance is a symptom of other things not working. Like hope, we don't need vigilance to kick in until other systems have failed. In this case, vigilance is a symptom of that uncomfortable sobriety that Milam was warning about. It's a sign that more could be done to make the body comfortable. The same is true for urge management. In an overview of Marlatt's cognitive-behavioral model, Larimer and Palmer (1999) considered urge-management techniques. This assumes that urges are a given and that they will need to be managed. But the level of urge that actually requires management can't be known until the biological nails have been removed from the alcoholic's foot. Like vigilance and hope, urge management is something that comes into play in the absence of the real solution, in this case, the biological correction of neurotransmitters and blood sugar issues that express as urges.

If the model-generating scientists encourage us to select approaches based on professional biases instead of matching need as it exists in nature to the best-matched treatment, they perform a disservice. Perhaps the generalist with a shallower but broad understanding of many fields may be a better matchmaker than a discipline-driven scientist or social scientist with a deep and narrow understanding of his own field.

### Deep and Narrow v. Shallow but Broad

Experts spend a lot of time refuting and tearing down other experts' work and building up their own. The question of whether or not addiction is a brain disease illustrates the point. Leshner (1997) noted that people who work in the addiction fields may zealously defend their favorite approach even in the face of scientific evidence. While the social context in which addicts use is important, if the brain is the core of the problem, it needs to be at the core of the solution. Satel and Goodwin (1998) raised concerns that focusing on the brain issues reduces a complex human activity to a slice of damaged brain tissue and disempowers the sufferer. They were also concerned that over focus on the brain would give rise to pharmaceutical solutions. This is a good possibility, as disciplines and industry drive neuroscience and the development of pharmaceuticals. Larson's work is based on biotypes of genetic etiology. Peele (1995) lambasted the disease model and the addiction treatment industry and went so far as to say there's absolutely no proof that addiction is genetically acquired. What is a counselor to do!

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It is not the intention of the author to tear down any man's view on the treatment of alcoholism except to the extent that he claims reign over a larger piece of the pathology than is rightfully his in the natural reality.

If western medicine and the helping professions it spawned were the natural governors of alcoholism, alcoholics would be their natural constituency. We would see more success from treatments based on western science if that paradigm were well matched to the condition. It means something that relapse rates for AA and medical model interventions fail to produce significantly better outcomes than no treatment at all. Some portion of this owes to the fact that the people trying to treat it assume alcoholism is just one disease and that it will yield to the deep and narrow without input from the shallow but broad.

In the New York Times Science Times October 29, 2004, John Marburger, the president's science advisor, commented that objective scientific information ultimately comes to the surface in spite of the threat of outside influences like policy. Dr. Marburger, a physicist, trades in a science where it is possible to design an experiment and get an unambiguous result. He acknowledges that in health and environmental science this is not the case, presumably because there are so many human and other variables to deal with.

Within the health fields, alcoholism has more variables than many conditions. Two crucial variables that go unheeded by the conventional treaters are biochemical individuality and the fact that it's more than one disease. As such, alcoholism is less apt to yield to the solutions of deep and narrow thinking without help from the shallow but broad. Marburger's "ultimately" just hasn't happened yet in the treatment of alcoholism. Objective scientific information has not yet surfaced that provides unambiguous information about what the condition even is let alone how to treat it. In this author's opinion, it seems to be past time for the experts to perform an inventory and admit to themselves and each other the exact nature of their wrongs. It is past time for the experts to gather and give a different way of thinking a crack at it.

### The BRIM of Alcoholism

(Barrel of Risks and Influences for the Manifestation of Alcoholism)

From the Big Book:

They saw that they had become actual or potential alcoholics, even though no serious harm had yet been done...these seventeen A.A.'s and hundreds of thousands like them, have been saved years of infinite suffering. They sum it up something like this: 'We didn't wait to hit bottom because, thank God, we could see the bottom. Actually, the bottom came up and hit us. That sold us on Alcoholics Anonymous. (p. 279)

A more inclusive, holistic approach allows for the possibility that many experts can share a piece of the truth, that some experts might be completely right some of the times but not all the times, and that most times solutions that work are multifaceted and tailored to the individual. The field of environmental medicine provides a model that suggests how disciplines and systems can work together and appropriately share the pathology and treatment of alcoholism. It's a stress loading theory.

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Consider that each person, each alcoholic, has a barrel of risks and influences for manifesting alcoholism. (A pathology pie chart won't work, we need something that can overflow.)

The barrel contains all the environmental, genetic and non-genetic factors that lead to alcoholic drinking as well as all the protective factors. Over time the level in the barrel will rise and fall. If circumstances push it over the top of the barrel, the person overflows into alcoholic drinking or relapse. For people, like the above quoted AA members, they can be caught before flowing over. The variables include but are not limited to: age, sex, genetics, love and support, honest contact, nutritional status, toxic load, appetite "foolishness", cravings, peers, education, self-efficacy, expectations, diet, time, family stress, chronic pain, economics, etc.

In this stress loading model, each individual has his own barrel. Some of the influences it contains are fixed, like history, sex, and genetics. Others can be manipulated, like diet, choice of friends and expectations. Some make the level rise, like stress and heavy drinking. Some lower it, like a lovely family and a good constitution. The alcoholic's job is to accept what he cannot change, like immutable genetics; change the things he can, like lifestyle; and gain the wisdom to know the difference between the movable and immovable influences on his alcoholism.

Here is how the BRIM concept works in the case of an allergic/addictive alcoholic. Recall that the allergic/addictive alcoholic in Larson's model is a binge-drinking, personality changing, hangover suffering alcoholic. This alcoholic has an environmental sensitivity that makes him feel intoxicated in proximity to materials containing ethanol, like solvents or gas. The immovable piece is that he has this vulnerability. The movable piece is that he has significant control over whether or not he gets exposed. The key to his feeling well in sobriety is avoidance of ethanol-containing materials. To feel well, he must think of his body in terms of total load and make lifestyle changes that will give him more comfortable and doable sobriety. Reducing stress and stabilizing his blood sugar with whole foods will lower the level in his barrel so that when he accidentally gets exposed to ethanol, he'll be less likely to flow over with the ensuing urges. For other bio types of alcoholics, proximity to these chemicals is not a risk factor at all; their vulnerability to drink is completely different. But the model works the same way. They must work the serenity prayer concept of identifying movable and immovable pieces in their BRIMs and then do the footwork wherever they have the most control.

It should be noted that any drinker who passes the point of no return is literally one drink away from flowing over the BRIM.

Perkinson (2001) describes the biology of tolerance, the development of chloride channels, and permanent changes that take place in cells, particularly in the central nervous system, that account for behavior changes and the no-turning-back-to-normal drinking aspect of addiction. Perkinson notes, "You can recover completely from some of the psychological and social effects of this disease, but you never can recover from the physical changes that have taken place in your cells." (pp.124-125)

Environmental medicine doctors Rea (1992) and Rogers (1995) use this fluid, stress loading approach in treating illnesses that have genetic, psychogenic, environmental, and nutritional components. They note that many conditions are combinations of causes and that even if one cause is immutable, other aspects of the total load can be changed significantly to bring about wellness. Alcoholism is just such a condition. Rogers, (1995):

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"The diagnosis or name of the disease is really inconsequential, compared with identification of the biochemical and environmental causes" (p. 42).

The loading theory begs the question "How important is it?" to understand all the details. There are lots of factors that influence one's mental health status, but it's not always important to understand them all. In some instances it will be enough to respect the complexity but deal with the total load in simple ways. Good nutrition provides an example. Although nutrition and medicine are both bio concepts, good nutrition is for prevention and restoration while medicine steps in only after an end-state diagnosis with medication for symptoms.

Poor nutritional status plays a much greater role in the development of drinking problems and relapse than we read about in our literature. Rogers mused that somebody up there must have known we were going to try to poison ourselves because we do have the capacity to detoxify poisons. The examples she gives us in the case of detoxifying ethanol are the liver enzymes alcohol dehydrogenase and aldehyde oxidase. The first can only detoxify with the help of zinc; the second can only detoxify with the help of molybdenum. Malnourished people – which includes alcoholics – deficient in zinc and molybdenum will not recover from the effects of alcohol until their levels are corrected. They will feel lousy. In the context of the BRIM of alcoholism, nutrition status will fill a bigger role for some and a smaller role for others. Some will be able to manage after care themselves; others will require testing and the help of nutritional specialists.

Williams (1978) explained alcoholism in terms of deranged regulatory mechanisms. Take an example from nature: If an animal is depleted, say, in B vitamins, exposure to a B-rich food source like yeast will make the animal ravenous for more. There would be no need to study nutrition and craving if our regulatory mechanisms could lead us only to natural, unrefined, unconcentrated sources of what our bodies need, like the animal attracted to yeast. Alcoholism is a problem of automatic choices. It would not exist without a source of de-natured carbohydrates. But in the presence of refined foods and substances, the regulatory mechanisms become deranged, so diet and appetite "foolishness" are risk factors for putting someone over the BRIM for addiction. To change diet from a BRIM-raising to a BRIM-lowering factor, the alcoholic must "re-nature" himself with whole foods.

By damaging the control mechanisms and dumbing down the appetite wisdom that leads us to make good choices, malnutrition causes more malnutrition. Refined sugars and alcohol may be palatable and pleasant, but a wise body will quickly become nauseated if more than a little is ingested. It is in the details of these deranged appetite wisdom mechanisms that subsequent writers like Larson (1997), Gant, (2002), Ross (2002) Ketcham and Asbury, (2000), explained how alcohol poisons different individuals in different ways that all result in what we call by one word, alcoholism. In some people, poor nutritional status is a predisposing factor; for most it becomes a consequence of heavy drinking. So time or duration of exposure is a big BRIM factor.

Once any kind of alcoholic reaches the biological point of no return, he or she remains one drink away from flowing over the BRIM into relapse. For these alcoholics, it is critical to reduce the emotional and body load of poisons and stressors to keep a comfortable margin around their sobriety.

The details of this challenge are different for every individual because every individual has a discrete body and a unique history. Alcoholics and the people helping them

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will be guided by their bio clues and their stories because the way into the problem suggests the way out.

The creators of AA, like the environmental medicine practitioners, understood the crucial importance of making distinctions between what we can and cannot change. The charge of the serenity prayer is embedded in the concept of the BRIM. At 12 step meetings the serenity prayer comes before reciting the steps and acknowledging powerlessness. Some AA critics like Satel and Goodwin (1999) find the first step disempowering. But taken in the context of the serenity prayer, alcoholics need acknowledge powerlessness only over *the things they cannot change*. Alcoholics are powerful to change the things they can, their selves. The serenity prayer invites people to pray for the wisdom to make distinctions, to learn which are the movable (for example, behavioral) and immovable (for example, genetic) risk factors for relapse. A person has or can get a lot of control over what he puts in his mouth, but none over family history. He or she has or can get control over incorporating meditation or yoga into the schedule, but little over the traffic at commuter hour.

For problem drinkers and recovering alcoholics who want comfortable sobriety, understanding their individual risk factors can help them from overflowing their BRIM of alcoholism. Borrowing the total load model from environmental medicine provides a flexible, fluid definition that can take in all factors contributing to the etiology of problem drinking and alcoholism without demanding that alcoholism be "a" disease. It also implies how disciplines could be more effective sharing the pathology as it exists in reality rather than hoarding it for their own kind.

A final advantage of working with the loading theory is that it makes the world a big enough place to contain both abstinence and moderation management models. There's room for harm reduction and RET. Since each person is dealing with the fluctuations in his or her own barrel of highly individualized risks and influences, no one system can claim ownership of the entire problem. But the stress loading concept can accommodate any that aren't exclusive.

### Who Owns Alcoholism:

Experts lose their value to the rest of us as soon as they start disagreeing with one another. The treatment industry is rife with experts.

But experts haven't been very successful, assuming we use stable sobriety or low relapse rates as our measure of success. There are experts who are getting pretty good at harm reduction, but harm reduction is still Plan B.

The anti-experts – AA – do very well with the people with whom they do well, but hold little or no appeal for others. So AA can claim a full or partial answer for some, but none at all for other individuals.

Then there are the experts from the College of Hard Knocks, like the author, who know the problem from the inside. Surely a bourbon-guzzling, benzodiazepine-addicted, co-morbid, ex-wife and adult child with eight years of Al Anon and a psychiatric hospitalization under her belt has something to contribute to the understanding of alcoholism.

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The disciplines are on automatic pilot. Crushing pressure to do more research in narrow fields does not make sense in the absence of collaborative work to understand the existing wisdom of the neighboring fields. Biological determinists don't have cooties. Behavioral determinists aren't in denial. We are, however, all schooled by disciplines that have interests beyond just representing the truth about the problem as it exists in nature. So who owns alcoholism?

Doctors have the best tools for detox, so they can own a piece.

There is plenty of emotional and psychological pathology, so psychologists are due a slice of the pathology pie, but only if they don't take more than their fair share in any given individual. These experts are ideally positioned to recognize bio clues and a gold mine of possibility is waiting to be mined by them.

Nutritional psychologists get top billing for the bio slice. All addicts have sick cells, and sick cells need nutritional support to heal faster after medical detox.

Addicts sometimes commit crimes, so the criminal justice system has to get a piece.

Psychiatrists are crucial when bio nutritional and natural life style work are not enough. But their tools are often toxic and expensive, and they make people dependent on a complicated distribution system and an increasingly problematical third party payment system. And they are disempowering if they don't promote long term lifestyle changes.

The believers in reprogramming through working the 12 steps and a spiritual conversion own a big piece of alcoholism. They address two thirds of the body, mind, and spirit evolution of an alcoholic. But with an institutional commitment to having no opinion on outside matters that even Bill W. could not penetrate, some one else will have to reach their foundering members. AA can't do it, but alcoholics can.

Addiction counselors get a medal for owning their slice of pathology pie and for hanging in with a cranky, depressed, often co-morbid, relapsing population.

Family therapists, career counselors, school counselors and the rest of us who work with people for a living have important roles to play, but we all could stand a few hours' instruction in bio clues, biochemical individuality and the importance of cellular integrity.

Addicts and support givers have an obvious role. They are forced by the current system to do their own long term case management. Long term case management oriented toward all three faces of alcoholism – body, mind, and spirit -- is a big unmet need in our treatment environment.

Then there is the role of the monolithic governmental, pharmaceutical, and insurance interests that prolong suffering and shift around costs to society so they appear on somebody else's spreadsheets. The author suggests their piece of the pathology pie be to study the positive effects on their respective bottom lines and to society of treating alcoholics as biological individuals.

And somewhere there has to be room for the shallow but broad thinkers who are not attached to anything but the case management of individuals. In the drive to draw clear distinctions between counseling and other helping fields and between specialties within the

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field of counseling, provision has not been made to case manage the boundary-defying problems of the diseases called alcoholism. It is in the nature of addiction to be multi-dimensional. If we think and practice strictly according to the biases of the disciplines we understand, we condemn the man to hobble with a few nails left in his feet.

Readers will surely have a few more suggestions, particularly if their field has not been mentioned.

### Making Lemonade Out of Lemons

The experts, the anti-experts, and the College of Life experts haven't improved the outcomes much. Perhaps our failure can motivate us to look at the information from a different angle. Some call this a paradigm shift. We could take what we know works best from each area and rather than apply it to the problem of a herd, apply it to biologically discrete individuals.

The therapeutic essence of AA lies in its power as an anti-hierarchical democracy. That means everybody participates and nobody is always in charge. AA also states that while you didn't create your vulnerability, you are the only one who can deal with the consequences. How empowering! Each alcoholic is his or her own expert on the long term case management team.

And then, pass it on.

The big book becomes a real page turner when one plays Sherlock Holmes in search of clues to biochemical individuality. Every story bears witness to the presence of a human body. Every storyteller reminds us that his or her body is a different terrain on which alcoholism develops. Here are a few more entries that bear witness to the role of body and the role of individuality.

We doctors have realized for a long time that some form of moral psychology was of urgent importance to alcoholics, but its application presented difficulties beyond our conception. What with our ultra-modern standards, our scientific approach to everything, we are perhaps not well equipped to apply the powers of good that lie outside our synthetic knowledge. (p. xxvii)

We believe, and so suggested a few years ago, that the action of alcohol on these chronic alcoholics is a manifestation of an allergy; that the phenomenon of craving is limited to this class and never occurs in the average temperate drinker. These allergic types can never safely use alcohol in any form at all; and once having formed the habit and found they cannot break it, once having lost their self-confidence, their reliance upon things human, their problems pile up on them and become astonishingly difficult to solve. (p. xxviii)

Men and women drink essentially because they like the effect produced by alcohol....They are restless, irritable and discontented, unless they can again experience the sense of ease and comfort which comes at once by taking a few drinks – drinks which they see others taking with impunity. After they have succumbed to the desire again, as so many do, and the phenomenon of

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craving develops, they pass through the well-known stages of a spree, emerging remorseful, with a firm resolution not to drink again. (p. xxviii)

Though the aggregate of recoveries resulting from psychiatric effort is considerable, we physicians must admit we have made little impression upon the problem as a whole. Many types do not respond to the ordinary psychological approach. (p. xxix)

These men were not drinking to escape; they were drinking to overcome a craving beyond their mental control....There are many situations which arise out of the phenomenon of craving which cause men to make the supreme sacrifice rather than continue to fight. (p. xxx)

All these, and many others, have one symptom in common: They cannot start drinking without developing the phenomenon of craving. This phenomenon, as we have suggested, may be the manifestation of an allergy which differentiates these people, and sets them apart as a distinct entity. (p. xxx)

He does absurd, incredible, tragic things while drinking. He is a real Dr. Jekyll and Mr. Hyde....He may be one of the finest fellows in the world. Yet let him drink for a day, and he frequently becomes disgustingly, and even dangerously anti-social. (p. 21)

Perhaps there never will be a full answer to these questions. Opinions vary considerably as to why the alcoholic reacts differently from normal people. We are not sure why, once a certain point is reached, little can be done for him. We cannot answer the riddle....Once he takes any alcohol whatever into his system, something happens, both in the bodily and mental sense, which makes it virtually impossible for him to stop. (p. 22)

Commencing to drink after a period of sobriety, we are in a short time as bad as ever. If we are planning to stop drinking, there must be no reservation of any kind, nor any lurking notion that someday we will be immune to alcohol. (p. 33)

We are convinced to a man that alcoholics of our type are in the grip of a progressive illness. Over any considerable period we get worse, never better. (p. 30)

To be gravely affected, one does not necessarily have to drink a long time nor take the quantities some of us have. This is particularly true of women. Potential female alcoholics often turn into the real thing and are gone beyond recall in a few years. (p. 33)

There was a tremendous urge to cease forever. Yet we found it impossible. This is the baffling feature of alcoholism as we know it – this utter inability to leave it alone, no matter how great the necessity or the wish. (p. 34)

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He is an intelligent man, normal so far as we can see, except for a nervous disposition. He did not drink until he was thirty-five. In a few years he became so violent when intoxicated that he had to be committed. (p. 35)

Some have gotten drunk, the text continues, "feeling ourselves justified by nervousness, anger, worry, depression, jealousy or the like" (p. 35).

What would make sense of this? What would make sense of the confusion and variation? What *would* make sense is what does take place in the natural reality.

These feelings do not take place independent of the physical body, the terrain which experiences them. But is it a form of insanity as the text suggests? Is it baffling? Only to those who did not and do not yet understand the powerful self-medicating value of alcohol for people with low blood sugar, or depressed people with genetic fatty acid metabolism problems, or allergies to the constituents of their drink, flagging dopamine, or any of the other underlying biological issues. The spiritual solution may have been all that could save them before we understood biochemical markers for predisposition to drink. But today we have knowledge of these markers but are not routinely testing alcoholics to identify the biologically vulnerable or apply this wisdom to make sobriety more doable.

That *is* insane and baffling.

### It Wouldn't Kill Us to Share

From the Big Book:

My physical being has certainly undergone a transformation, but the major transformation has been spiritual. The hopelessness has been replaced by abundant hope and sincere faith. (p. 475)

The author does not seek to strip others of their deeply held beliefs about why dry alcoholics suffer so, but only to ask readers if their truth can expand to include a larger role for the physical body. Is his physical desire to drink not an integrated and simultaneous experience with everything else that calls him to alcohol? This author adores studying hypoglycemia and neurotransmitters, but convincing readers of the validity of these biological underpinnings is not the thrust of this document. Rather, the author asks readers to step back from the controversy surrounding alcoholism treatment, to observe the issue with a wider lens, and to consider these questions.

How much of the pathology pie is owned by your discipline?

Is it the same percentage for every alcoholic?

What other sources of wisdom legitimately own a piece?

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And is this reflected in your work and referrals?

Whatever percentage of an alcoholic's sober suffering is attributable to his biology, it is to that extent that natural biological solutions should be applied in the name of making sobriety more doable. It is to that extent that he can take the energy he has been squandering on will power, vigilance and urge management and spend it instead on his life and spiritual practice.

### How Counselors Could Make This Better

Addiction is so pervasive, it pops up in different forms in so many counseling settings that it is safe to say there is a role as unbiased sleuth for any counselor. The treatment niche is not one that can be filled by a separate profession or a branch of counseling; it can only be filled by a pervasive awareness, equal to the pervasiveness of the disease process. Shallow, perhaps, but broad.

If the author could pick half a dozen things for counselors to remember, this is what they would be:

- Counselors should know that alcoholism is not a disease, but at least 4 different disease states, each with its own "waterslide" course of development.
- For the counselors dealing with problem drinkers – i.e. not addictions counselors who don't see them until they are end-stage alcoholics – a first step is to be able to recognize the bio clues so they can focus their efforts on what's within the reach of counseling and get help for the biological problems from other sources.
- For the problem-acknowledging and motivated heavy drinker, bibliotherapy may be enough as long as the book choice is guided by bio clues. Remember that how drinkers interacted with alcohol on their first exposures provide a gold mine of information about their biology.
- Conceptualize the development of alcoholism more like a barrel of risks so you don't fall into the trap of being too heavily influenced by any one field of understanding, especially your own.
- Expand your understanding of the prefix "bio" to mean not just medicine but also healthy cells.
- When dealing with chronic relapse in an earnest client, assume the alcoholic still has a nail in his foot. If you've removed all the nails owned by your own discipline, assume the remaining nails are from somebody else's.

### The Author's Biases

The diceyist challenge of writing this paper has been to simultaneously honor the 12 steps, biology, and the work from fields the author more or less agrees with. The entire writing has taken place in the context of a fourth step inventory. This piece is limited by the fact that the author desired to demonstrate that the world is a big enough place to embrace both the 12 steps and biological treatment of alcoholism, particularly blood sugar stabilization.

It is not the author's intention to question the value of the spiritual or any other experience, only to add that all human experience plays out on the human terrain of the physical body. The Big Book concludes:

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The terms 'spiritual experience' and 'spiritual awakening' are used many times in this book which, upon careful reading, shows that the personality change sufficient to bring about recovery from alcoholism has manifested itself among us in many different forms. (p. 567)

To this comment on individuality I would add only one piece of wisdom I learned from a four-year old visiting his mom at Anderson House. He handed me a crumpled ball of litter, which I was moved to read before trashing. It read: Caring for the body is the primary spiritual act, for the body is the temple of the soul.

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