

Ecologic, Orthomolecular, and Behavioral Contributions to Psychiatry

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INTRODUCTION

Clinical ecology examines the patient's potential for maladaptive (allergic and allergic-like) reactions to his environmental chemistry, which includes such reactions as to foods, inhalants such as animal dander or pollens, and commonly contacted chemicals (Randolph, 1973). There is a direct relationship between the degree and percentage of maladaptive reactions and: (1) inherent or developed metabolic errors; (2) nutritional deficiencies; and (3) state of stress decompensation. Clinical ecology treatment consists of prevention of maladaptive responses by either avoidance or increased tolerance by hyposensitization to the incriminated substances. These contributions come from the specialty of allergy and its newly developing broader spectrum subspecialty, clinical ecology, which includes an examination of food and chemical reactions, whether these be allergic or toxic in nature. This consideration is beyond the usual allergy considerations.

Orthomolecular medicine examines the molecular needs of the patient, including the most fundamental cellular

needs such as nutrients, enzymes, hormones, and so forth. Orthomolecular treatment consists of providing an optimum environment for cellular function. These contributions come from the basic science of biochemistry, and though all branches of medicine utilize these values the clinical specialty of internal medicine represents its most concentrated focus. The newly developing psychiatric subspecialty of Orthomolecular psychiatry applies Orthomolecular medicine to psychiatry (Pauling, 1968).

Psychiatry encompasses the broad-spectrum scope of behavioral needs. Historically it is as strongly rooted in philosophy as it is in physical science. To a great extent diagnoses are made out of clusters of symptoms and not out of cause. The depressed, anxious, and phobic person is diagnosed as neurotic. The delusional, perceptually distorted, hallucinating, and confused person is diagnosed as psychotic and usually given the term "schizophrenia." Psychiatry's strong philosophical bias leads to the basic assumption that with rare exceptions these neurotic and psychotic symptoms stem from the emotions of a biologically intact person. Gradually several clear-cut entities have been separated from a neurotic and psychotic category such as epilepsy, brain tumor,

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central nervous system trauma, deficiency states such as pellagra, cerebral allergic reactions, metabolic errors involving amino acids and sugars, and toxic-producing metabolic errors such as porphyria. It is clearly understood that a spectrum of behavioral symptoms ranging from minor to major can stem from organic causes, but it is basically assumed that the majority of behavioral problems, be these minor or major, do not stem from organic causes but rather from an assortment of conflicts, hostilities, guilt, dependencies, personality immaturities, and so forth. This bias for functional causes has created a situation in which the majority of behavioral problems are not seriously subjected to a differential diagnosis of symptom causes based on a full range of organic and functional causes.

Ecologic Contributions

What is the value of adding ecologic diagnoses and treatment to the already present values of Orthomolecular and behavioral psychiatry? This system of examination and treatment is not a new invention, but insistence on its use in psychiatric patients is new. We can only know its value by examination. Herbert Rinkel wisely observed, "One must be taught to suspect, for if one does not suspect one does not test, and if one does not test, one does not know" (Rinkel et al., 1951).

(1) Clinical ecology examines man as he is in his environment. This individualized assessment circumvents the errors of generalization. Food fads and medical fads are based on the generalization that something that is good for or bad for a particular person will be good for or bad for a wide assortment of people. Individual assessment of response to a person's individual environment is a scientific method of discovery of individual needs.

(2) Provocative ecologic testing, whether by deliberate food tests, sublingual exposure to extracts of foods or chemicals, sniff testing of inhalants or volatile substances, or

serial dilution intradermal skin testing does not tell whether the reaction is caused by an allergic reaction, toxic reaction, metabolic error (inherited or developmental), or nutritional deficiency. The gross evidence of cause-and-effect relationship is of significant clinical value which provides the basis of a technique of avoidance and spacing of contacts as a tool for symptom reduction. Other medical disciplines such as physical examination and laboratory assay are needed to further refine the varied individual causes for these reactions. One example is that a deliberate food test of a single food, after a period of avoidance, is testing many possibilities such as allergic, digestive enzyme deficiency, malabsorption, hormonal imbalance, nutritional deficiency or imbalance with reduction of numerous enzymes, or an inability to maintain an optimum pH (Watson, 1972). Also a single symptom may have multiple causes, each of which must be ferreted out. A pleasant state of excitement may demonstrate that a particular food provides for a nutritional need, or on the other hand it may be an aspect of allergic excitement, both of which have to be considered.

(3) Clinical ecology tools for examination are deliberate food testing of meals of single foods after a four-or-more day abstinence from foods and chemicals (Randolph, 1964), elimination diet and re-exposure (Rowe, 1944; Speer, 1970), sublingual exposure to extracts (Mandell, 1969, 1970), sniff testing of inhalants, intradermal serial-dilution testing (Mil-ier, 1972), intradermal single-dilution testing, and scratch and patch skin testing. The order in which these have been listed is approximately their order of efficiency, with skin testing of scratch, patch, and single intradermal whealing approaching a one-third value of deliberate single-meal food testing after a fast.

(4) A four-day fast (rarely up to six days) reverts an addictive state to an acute allergic or allergic-like reaction.

This is as true of food addiction as it is of addiction to such as tobacco or chemicals. Due to the delay of the withdrawal-phase symptoms of addiction, a cause-and-effect relationship is not easily established. There is a material improvement in ability to assess cause-and-effect relationships by providing for a period of avoidance followed by exposure to a single substance. The period of avoidance provides for a lessening of intensity and sometimes complete cessation of symptoms, while the single exposure provides an acute time-related reaction in its greatest potential intensity.

(5) Allergic and allergic-like symptoms and withdrawal-phase addiction symptoms are on a continuum. Addiction can be viewed as a second-phase allergic reaction of a physiological compensation for a frequently contacted allergen. This frequent contact of an allergen creates a deficiency, and also the more deficient for any reason the subject is the more likely an addictive reaction will develop.

(6) Allergic reactions create a toxic state. There is clinical evidence in my observations to substantiate the belief that such toxic states as porphyria and kryptopyroluria, when present in schizophrenics, are frequently an end-product of allergic reactions to food and chemicals. Ecologic methodology relates such allergic-addictive reactions and also allergic-metabolic error reactions to specific substances. Carl Pfeiffer gives evidence of 30 percent of schizophrenics having pyroluria (porphyria plus kryptopyroluria). Henry Peters (1957, 1958, 1961, 1966) observed the presence of porphyric schizophrenia. In South African natives there is a type of porphyria relating to a reaction (allergic, liver damage or hepatic adenoma) to a heavy growth of aspergillus occurring on the local grown cereal grains (Dean, 1971). In my series I have found many schizophrenics allergic to aspergillus as tested by a sublingual extract test. Allergic reactions to several molds have been observed to evoke psychotic cerebral allergic reactions in some schizophrenic patients.

(7) Avoidance of specific incriminated foods and chemicals provides the greatest degree of efficiency of symptom control. Abstaining from the use of incriminated foods for a period of three months, as well as avoiding as near as possible contact with incriminated chemicals, provides for a degree of restitution.

(8) After three months of abstinence from incriminated foods and chemicals, a four-day rotation of all foods can begin (Philpott, 1974a). This will prevent a return to the former allergic-addictive state.

(9) A small percentage can only remain well while using foods without insecticide residues, coloring matter, or preservatives. Provocative sublingual tests with these substances or feeding foods without these substances compared to test meals of foods with these substances is capable of sorting out these patients.

(10) Multiplicity of allergic reactions is the rule. In schizophrenia the average number of maladaptive reactions is to 10 items, with wheat being 64 percent, corn 51 percent, and milk 50 percent, and an overall symptom-producing reaction of 92 percent (Philpott, 1974b).

(11) Cerebral maladaptive allergic and allergic-like reactions have a full range of minor to major reactions of which the central nervous system is capable. In learning and motivational problems there are observed reactions of dyslexia, poor concentration, distractibility, hyperkinesis, and so forth. In minor reactions, such as neurosis and personality disorders, the characteristic symptoms have been observed as allergic reactions being at least one of the causes of symptoms. In major emotional reactions allergic reactions emerge as a major demonstrable cause of symptoms such as disorientation, delusions, hallucinations, obsessions, compulsions, phobias, and have been observed as capable of evoking any symptom described as schizophrenic.

(12) Infections are an aspect of the

immunologic load. Infections are often superimposed on an allergic reaction as well as infections helping create a spread of allergic reactions to many substances. Special emphasis should be given to the possibility of infections at the roots of teeth, in sinuses, cervix, and prostate. Opportunist organisms of viral, bacterial, or pleomorphic origin should be considered. Organisms of particular probability are such as streptococci (*S. Salivarius*, *S. Mitis*) (Chapman, 1962), the mycoplasma group or Progenitor Crypto-cides (Livingston and Alexander-Jackson, 1970) which possibly may be variants of the same organism. It has been observed that frequently an allergic reaction alters the pH, usually on the acid side; such alteration in pH and edema reduces the oxygenation to tissues, providing a situation which stimulates relatively nonpathogenic organisms to quickly become pathogenic, reproductive, and toxic producing. Therefore, when an allergic reaction occurs, we have to consider what this reaction is doing to the one-celled organisms the subject is hosting. It is as important to handle infections as it is to handle allergies, metabolic errors, and deficiencies. Infections lead to a chain of metabolic disorders such as tissue destruction, toxins with altered enzyme function, nutritional deficiency, and altered immunological function.

Metabology Contributions

(1) A homeostatic chemical balance is a natural barrier against infections and allergic reactions. Vitamin C is of special value as a barrier against infection (Stone, 1972, Klenner, 1971). Pyridoxine is of special value as a barrier against allergic reactions (Ellis, 1973). General nutrition is a necessity as a protection against infection and allergy.

(2) The amount of vitamin C needed is best determined as that which has maximum value against infectious invasion. In psychiatric patients this range is six to 10 or more grams per 24 hours.

(3) Pyridoxine need should be determined by its maximum value against allergic reactions, and in psychiatric patients it is in the range of 300 to 1,500 milligrams per day.

(4) General nutritional values can be guided by a vitamin C loading test to determine how much vitamin C is used before urinary spillage, Figlu test to determine folic acid need, serum B12 to determine vitamin B12 need, serum pyruvate to determine thiamine need, hair test for minerals to assess mineral imbalance, and a five-hour glucose-tolerance test to assess hyperglycemia and hypoglycemia, blood nicotinamide adenine dinucleotide to determine evident need for vitamin B3 and/or B6. These tests can also be periodically repeated to monitor improvement and guide dosage.

(5) Tests suggested for monitoring of safety of treatment are: SGOT, uric acid, fasting blood sugar. If any of these are beyond normal range, a reduction or discontinuance of vitamin B3 should be considered. A chemical hepatitis from vitamin B3 can increase SGOT, uric acid, or fasting blood sugar; also kidney stones were observed in one case. Numbness of hands and feet have been reported in subjects using three or more grams of Pyridoxine in 24 hours. Those using megadoses of vitamins should be under medical supervision since side effects have been observed. Handling allergic and allergic-like reactions by use of avoidance of these incriminated substances makes it possible to keep vitamin dosages below potential side-effect levels.

(6) Test-evoked maladaptive, psychotic, and neurotic symptoms can be stopped by giving gram doses (seven to 15 grams) of vitamin C intravenously, Pyridoxine 1,000 to 3,000 mg intravenously, and sometimes it is necessary to add magnesium sulfate, one to two grams intravenously, and/or calcium gluconate or calphosan 10 cc intravenously.

(7) Test-evoked maladaptive reactions can be prevented by giving these same vitamins or minerals intravenously before

test meals.

(8) Doses in the range of vitamin C 3,000 mg, Pyridoxine 200 mg, calcium 300-400 mg, magnesium 100-200 mg given one and one half hours before the test meal will, in the majority of cases, handle the first test meal but are not capable of completely cancelling some symptom formation in subsequent consecutive meals. For this reason, the highest efficiency in symptom reduction is achieved by combining ecologic management of abstinence and/or spacing of contacts from incriminated substances and optimum doses of nutrients.

Behavior Contributions

(1) Repeatedly evoked responses become learned. This is true whether evoked by disturbed interpersonal relationships, fright from high-level stimuli, or an unreasonable response to low-level stimuli based on an irritable nervous system caused by an allergic or toxic response (Berlyne, 1969). In fact, some of the most tenacious and severe phobias, obsessions, compulsions, delusions, and perceptual distortions do occur due to allergic and toxic reactions of the central nervous system. Correcting these chemical defects removes the current driving force creating symptoms. However, there is left the residual of often highly learned responses which are not corrected by removal of the toxin or allergen.

(2) Desensitization is a method by which the central nervous system is sufficiently calmed to be capable of reapproach to stimuli without evoking the maladaptive learned responses. Two factors are necessary for this to be efficient: one is to isolate all of the stimuli and their responses, and the second one is to provide a method of central nervous system normalization so that exposure will occur without the maladaptive response occurring. In neurotics, and to some degree psychotics, the teaching of relaxation with reapproach to the stimuli using an imagery reapproach is valuable in training down these symptoms. In schizophrenics the most effective method of training down phobias and

other anxiety-caused reactions is to provide a chemical normalization of adrenal cortical pituitary function. This can be provided by megadoses of vitamin C ranging from 7 to 15 grams, vitamin B6 500 to 1,000 mg, calcium in the form of calcium gluconate 10 cc or calphosan 10 cc, and/or magnesium sulfate 1 to 2 grams, supplemented by adrenal cortical extract or synthetic adrenal cortical hormones given intravenously (Philpott, 1974; Levine, 1968). While in this normalized state, the subject reapproaches the anxiety-producing stimuli by means of a tape-recorded message of all his symptoms.

(3) Response interference deconditioning (Philpott, 1973). Any methodology that interferes with a response while in process can be used particularly to train out obsessions, compulsions, delusions, and maladaptive affectual responses. The simplest of these techniques is to have the subject place in mind a maladaptive response and hold the breath until the picture leaves. This can be repeated many times and in some cases effectively train out maladaptive responses. An aversive-level painful stimulus applied to the hand or the temple areas is another technique that is useful for some. About 75 percent of patients can tolerate such a technique without concern. For the most serious obsessions and compulsions, delusions, and affectual disturbances a technique of using an orientation-response interference is useful. Electrodes are placed just above the ears. The Reiter Molac electric shock machine is used with a quick on and off stimulus. Verbal signal is given to the patient of his symptom, the brief orientation response stimulus applied. This is repeated four times a minute ranging from 15 minutes to an hour in duration of treatment. This is best preceded by sedation with Valium or Brevital for the first few stimuli. The most valuable method of applying this is to precede the treatment with electric

shock or deep Sedac treatment. It is necessary to avoid the anticipation of the next stimulus. This is the reason for applying the electric shock or the sedation preceding the initiation of the treatment.

(4) Electric shock, Indoklin shock, or deep Sedac treatment are necessary in five to 10 percent of schizophrenics in order to reinstate normal excitation-inhibition of neurons (Philpott, 1974, 1973a). The best way to judge a need for such stimulating treatments is the evidence provided by a four-day fast. If symptoms do not materially clear on a four-day fast, then this patient needs cerebral stimulation as a behavioral training method to train back in normal excitation and inhibition ability. Such cerebral stimulation re-establishes the neural ability to be alert, oriented, and enjoy, and on the other hand to relax and have restorative sleep. Vigorous physical exercise and training in relaxation is usually capable of maintaining the normal excitation-inhibition neuronal function but often fails to be capable of reinstating such function in a well-established schizophrenic illness. Daily or near-daily exercise should be recommended to maintain normal excitation-inhibition ability.

(5) All patients including especially schizophrenics should have psychotherapy which realistically helps them solve their problems, reorganize their thinking, teach them new social skills, and support them in following their ecologic and nutritional needs. Croup therapy is helpful in its social conditioning qualities. In any event, a central core in such therapy should be that of keeping in mind how responses are learned in terms of stimulus-response sequence and how disturbed body physiology can enhance such maladaptive learning.

General Consideration Contributions

(1) Diagnosis should be based on a differential diagnosis of each symptom no matter what the psychiatric disorder may be. For example, in finding out the differential diagnosis of depression, consider and test for the following: (a) mineral deficiency or imbalance, these are

known to be capable of producing depression; (b) vitamin B-complex deficiency; (c) food and chemical allergic and allergic-like reactions; (d) psychological cause, such as love-object loss, conflict, guilt, and so forth.

(2) Give a rating to symptom-evoking causes, such as 1:4. Classically there are multiple evoking causes for each symptom. There can be both psychological and physiological evoking causes for a single symptom. Both should be ferreted out.

(3) Therapy should be specific for each demonstrated cause as with food and chemical reactions or evident potential causes such as nutritional deficiencies or psychological factors. Treat rationally and simultaneously all the multiple causes of the multiple symptoms.

(4) Educate the patient within the framework of his own individual differences from the majority such as the continued use of specific nutrients he needs or specific foods or chemical contacts he must avoid, or space the exposure.

(5) Ecologic and Orthomolecular diagnosis and treatment is applicable to a broad-spectrum group of psychiatric problems irrespective of diagnosis and finds its maximum usefulness in psychosis. One never knows the cause of a symptom unless one tests to find out. Guesses are often wrong.

(6) One method of providing for optimum oxidation reduction potential is to provide sufficient thyroid to maintain an axillary temperature of 98.2. The axillary temperature is taken for a 10-minute period before rising in the morning; normal range is from 97.8 to 98.1. An optimum oxidation reduction potential provides some degree of defense against allergies and infections by providing more oxygen to the tissues. Any method that increases oxygen to the tissues aids in a defense against allergies and infections. This is one of the values of exercise. For immediate relief of symptoms, oxygen or oxygen plus CO₂ is

useful (Philpott, 1974).

(7) At the time these biological needs are adequately met, use all the good things psychiatry has taught us with special emphasis on behavioristic corrective learning. Using this biobehavioral approach drastically changes the practice of psychiatry. Ninety percent of the time, even in psychotic patients (acute as well as chronic), there is no need for tranquilizers, antidepressants, or electric shock treatment, and at the same time treatment results are superior to the use of these measures without the benefit of ecologic and Orthomolecular measures. These results are so useful as to safely lead to the prediction that psychiatry will steadily gravitate toward a biobehavior-ism composed of contributions from clinical ecology, biochemistry, and the newly developing behaviorism.

DISCUSSION

Schizophrenia in its early stage is characterized by exacerbations and remissions. Manic-depressive, psychotic depressive, and involuntal depressive have the same fluctuating qualities. In fact, this exacerbation and remission quality is characteristic of emotional reactions in general. One is reminded of Hans Selye's general adaptation syndrome involving fluctuating stages of alarm and mobilization, adaptation and exhaustion in response to physical and/or psychological stresses. This same fluctuating characteristic is present in allergic reactions, the subject being symptom free when not exposed and having symptoms on exposure to the allergen. These same qualities exist in metabolic errors such as phenylketonuria, galactosemia, or porphyria when symptoms develop on exposure to the incriminated substances and leave when the substance is withdrawn. This same quality of exacerbation and remission applies to nutrition in which symptoms develop in malnourished states and leave when adequate specific nutrients are provided. Our differential diagnosis is further complicated by the fact that learned

responses are evoked by stimuli so that when not exposed there are no symptoms and when exposed symptoms develop. Since all of these (allergic, toxic, metabolic errors, nutritional deficiencies, and learned responses) have the same quality of exacerbation and remission, they all need to be equally considered in the differential diagnosis as the causes of symptoms. It is clinically more useful to discover the differential diagnostic causes of symptoms than it is to give classical symptom diagnoses such as neurosis or psychosis, since such differential diagnoses give valuable clues as to the treatment needs. Studies by many workers including myself have established that such a survey has demonstrated each of these areas to be likely making some degree of contribution to the total symptom picture. Systematic examination of each of these areas is the only safe way to be sure of symptom causes.

Selye's general adaptation syndrome (Selye, 1956) indicates to us the general behavior of the organism no matter what the cause of stress may be and can be applied to any of these areas. In the area of allergy-ecology: (1) the allergic reaction is an alarm and mobilization reaction as observed by the initial exposure or test exposure after a period of avoidance; (2) repeated exposure to an allergic substance produces an adaptation of an adaptive addiction which is relatively symptom free, and although a chronic state of stress, it is not usually regarded as an "illness"; (3) when this adaptive addiction state fails, then the exhaustion-phase symptoms are essentially the same as the initial allergic alarm reaction. Avoidance of incriminated substances for four days reverts the adaptive addiction or the exhaustion phase to a symptom-free state from which a re-exposure evokes the alarm reaction which is now observable as a maladaptive allergic or allergic-like reaction. Avoidance of the incriminated substance for six to 12 weeks usually produces an adaptive refractory state capable of an exposure of a rate of a

minimum of each five days without a stressful maladaptive symptom-producing reaction occurring. This adaptive refractory state becomes the basis of a diversified rotation diet of a four-or-more-day rotation basis. Supplying nutritional needs, especially vitamin B6 and vitamin C supplemented by other laboratory demonstrated nutritional needs, and supportive vitamins as riboflavin, pantothenate, vitamins A and D (Reich, 1971), have been observed to reduce these maladaptive allergic and allergic-like reactions but not to completely handle these reactions. Optimum results are achieved by considering both the allergy and nutritional needs simultaneously. A four-or-more-day rotation of foods after an initial period of six to 12 weeks of avoidance of symptom-producing foods, avoidance of any fixed food allergies, avoidance of chemical or other allergic or toxic reactions, plus appropriate supernutrition is materially superior to either the ecologic or supernutrition methods alone. Metabolic errors involving sugars, amino acids, proteins, fats, and such as pyroluria (kryptopyrrole plus porphyrins) will in most cases be adequately handled by this combination of ecology and supernutrition. When possible, diagnosis of these errors should be made, but it is my experience that ecology-supernutrition treatment provides the answer for such metabolic errors.

Removing the person for four or more days from the addictive substance and selectively re-exposing one at a time to the substances has demonstrated the emergence of every shade of symptom described as being schizophrenic, neurotic, or character neurotic, plus a host of common somatic symptoms often dubbed as psychosomatic. In fact, such allergic and allergic-like reactions can either excite or inhibit any tissues in the body and are therefore capable of producing any set of symptoms these tissues are capable of producing. Such maladaptive reactions have been called the great masquerader. Depression, hallucination, delusions, perceptual

distortions, catatonia, flatness of affect, hyperkinesis - - are all such garden-variety maladaptive reactions as to justify the conclusion that an allergic-addictive source must be considered in a differential diagnosis of such symptoms. There is one behavioral consequence of addiction to any substance, be this narcotic, alcohol, or food, that deserves special mention; this can be described as narcissism. A state of addiction is a state of suffering in which symptoms frequently emerge of such intensity the person feels obsessively and compulsively driven to seek relief at all costs. Under this impact the usual social judgments are of little significance, and relief is of prime significance. The person by trial and error finds the substance that brings maximum relief. This may be a food, tobacco, coffee, or a narcotic, and so forth. In fact, a narcotic gives maximum relieving effect no matter what the addiction may be, since it has the characteristic of blocking the sense of discomfort and providing a sense of euphoria. If the addicted person, even though it be a food to which he is addicted, by chance experiences relief by a narcotic, he is thereby shaped toward using the narcotic for his sense of relief of addiction. This is one reason why it is so important that we not introduce a narcotic of any kind to our addictive emotionally disturbed patients. Statistics thus far gathered would reveal that such an addictive state can be demonstrated to exist 92 percent of the time in schizophrenics (Philpott, 1974b). This self-centered narcissism becomes trained in as a character logical defect in this addict no matter what the addiction may be. A food addict will develop the same self-centeredness as a narcotic addict although not always to the same degree of intensity, yet sometimes foods can be observed to produce as serious a narcissistic reaction as a narcotic produces. This self-centeredness pervades the person's personality, including his interpersonal relationships, and handicaps him. He simply cannot wait

for any postponement of his desire for relief. He develops an inability to wait for anything. The world must revolve around him and immediately supply his every wish. Otherwise he feels justified in being angry, at being neglected or rejected. He considers it his right to be immediately serviced.

Tranquilizers, antidepressants, and megadoses of vitamins are used to offset allergies and addictions. The use of vitamins comes closest to being a logical physiological answer to the problem. However, even here it has been demonstrated that the majority of patients have such a defect in making use of the supplementary nutrients as to be unable to remain symptom free on exposure to conservative meals of incriminated symptom-evoking foods. Symptoms evoked during allergic reactions can be handled by giving intravenous sodium ascorbate, Pyridoxine, adrenal cortical extract, or synthetic adrenal cortical hormones. It seems evident that there are patients with a metabolic defect as far as keeping the pH in a normal balance. An example is the patient who develops serious symptoms when taking ascorbic acid but develops no symptoms when taking sodium ascorbate. There are certain physical states such as excessive cold or excessive heat which are known to help precipitate allergic reactions. Undoubtedly we can add to this that of an evoked acid or alkaline state beyond optimum. It also appears that there is such a thing as foods, nutrients, or chemicals evoking a pH that is not within the optimum range in a person with a defect in a homeostatic balance of his acid base balance. It should be understood that essential enzymes cannot be made unless the pH is within an optimum range, and therefore anything, be it allergic or otherwise, that would alter the pH from its optimum range would be symptom producing. This area deserves further study as a cause of symptom production. What are the various factors that cause some people to be unable to maintain an optimum pH?

Allergy (Randolph, 1973; Mandell, 1974;

Speer, 1970; Philpott, 1974), infection (Livingston and Alexander-Jackson, 1970; Chapman, 1962; Papez, 1952), and nutritional deficiency (Hoffer, 1974; Ellis, 1973; Stone, 1972; Pauling, 1968) are the ground substances from which the web of many chronic physical and mental illnesses are spun. It matters not which comes first or for what reason, the other two will invariably develop and add their dimensions to the symptom causes. Allergic reactions decrease the oxygen supply (reduced oxidation/reduction potential) to the affected tissues. This reduced oxygen supply provides an ideal media for nonpathological organisms which are frequently present in the body to change to pathological resistant toxic-producing variants, the toxins of which set in motion a chain of events further reducing the oxidation/reduction potential. Chapman (1961) describes *Streptococcus Salivarius* and *Streptococcus Mitis* as typically present and easily changing to resistant variants when oxygen is reduced below the optimum for human tissues. Papez describes neuronal inclusion bodies as growing into colonies of pleomorphic organisms in crushed brain cultures of chronic schizophrenics. Gliosis of supporting brain tissues results from the irritation produced by these organisms.

The degree of cellular deterioration reveals the timing of acute infectious flare-ups which historically coincide with acute psychotic episodes. Livingston and Alexander-Jackson describe a pleomorphic organism which can be cultured from urine or blood which is probably the same as Papez's pleomorphic organism observed in the brains of schizophrenics. This organism is identified as Progenitor Cryptocides, which is likely the same as mycoplasma described by others. *Streptococcus Salivarius* and *Streptococcus Mitis* could be mutant variants of Progenitor Cryptocides or in turn it could be a variant of *Streptococcus Mitis*. This

classification concern is only of academic interest. There is no reason to limit our scope to the Streptococci and Progenitor Cryptocides since other viruses and bacteria will behave similarly, although it is likely true that these organisms are primary invaders paving the way for other infections. The possibility of an assortment of organisms affecting the brain is under study (Torrey, 1974, 1973). What is of clinical concern is the evidence of the presence of latent, dormant, non-resistant organisms which, under suitable circumstances, quickly change to resistant pathological disease-producing organisms. Nutritional deficiencies in general, and in particular vitamins C and B6, provide a tissue state prepared for allergic reactions and invasion by and reproduction of resistant hosted organisms.

Porphyria produces an assortment of somatic and emotional reactions including classic schizophrenia symptoms (Kolb, 1968). There are primary (inherited) types and secondary (symptomatic) types. Secondary causes for porphyria are such as deficiency (pellagra, protein deficiency), alcoholism, toxic (insecticides, fungicides, toxic doses of medicines and other toxins), mineral imbalance, heavy metals, reaction to aspergillus of an allergic nature or liver damage or hepatic adenoma, infections such as cancer, and in my series the evidence of allergically evoked porphyria, with the literature also describing a wide assortment of chemical and food reactions evoking porphyria in individually susceptible persons (Goldberg, 1971; Watson, 1960; Wiegand, 1969; Goodman, 1970; Roenigk, 1970; DeMatteis, 1961; Eastham, 1971).

Laboratory studies revealing 92 percent deficiency in nicotinamide adenine dinucleotide, as my series reveals, indicate schizophrenia to also involve a pellagra-like or subclinical pellagra state. This would increase porphyrins since pellagra is known to increase porphyrins (Spies, 1938; Spies et al., 1938).

Does the pleomorphic organism described by James Papez, as consistently cultured from the crushed brains of chronic schizophrenics, which

was later identified as likely Progenitor Cryptocides by Livingston and Alexander-Jackson, and identified by them as a member of the Actinomycetales along with Aspergillus (Livingston, 1972), produce porphyrins or simply evoke a porphyrin reaction? Some suggestive evidence that aspergillus and Progenitor Cryptocides may be primary producers of porphyrins is as follows: (1) Surgeons use the fluorescence of tumors to determine if they have removed all the tumorous tissue (Livingston et al., 1970). Cancerous tumors are observed to contain Progenitor Cryptocides. (2) Aspergillus as hepatic adenomas and aspergillus hepatic reaction produces a red ultraviolet fluorescence (Dean, 1971). (3) Progenitor Cryptocides cultures produce a brown to red color (Livingston et al., 1970; Livingston, 1972). (4) Fujita and Ging (1961) described a brown gummy substance isolated from the urine of schizophrenics which was later isolated by Chapman (1962) as produced by Streptococcus Salivarius and Streptococcus Mitis. (5) Long-wave ultraviolet fluorescence of tissues, urine, and feces containing porphyrins ranges from purple to pink to red (Dean, 1971). Whether the suggestive colors of Progenitor Cryptocides, Streptococcus Salivarius, or Streptococcus Mitis is due to the organism-producing porphyrins is yet to be determined. In any event, it is understandable that bacterial and viral toxins can evoke a porphyric reaction, and it may be that these organisms directly produce porphyrins. (6) Central nervous system porphyrin metabolism centers in the oligodendroglia. Do oligodendroglia make or do they store porphyrins? Papez described mitosis of oligodendroglia and astrocytes with gliosis formation in the brains of schizophrenics as a response to the Progenitor Cryptocides cerebral infection. It seems likely that such an infection produces primarily or secondarily a production of porphyrins in the central nervous system. It also should be

considered that in the case of porphyrins produced in the cerebral tissues, either by the infectious agent or the response of oligodendroglia to the infectious agent or allergic reactions, porphyrins in the central nervous system would be much higher than evidenced by samples from the urine or feces.

In testing for porphyria in schizophrenics proceed as follows: one urine sample (Rogers, 1964), or preferably a 24 hour urine quantitative study of uroporphyrin, coproporphyrin, protoporphyrin taken under two conditions -(1) symptom-free or essentially symptom-free state such as the fourth day of a fast under comprehensive environmental control conditions of no exposure to commonly met chemicals and inhalants, or after the patient has been placed on a program of avoidance of incriminated substances; (2) symptom-producing state such as when reacting to a food or chemical during a test and preferably a 24-hour period when stressed by an overload of all foods, chemicals, and inhalants the person has been demonstrated to react to. In this method the patient serves as his own control by assessing the difference between the porphyrins during the symptom-free state and the symptom-producing state; (3) feces studies for porphyrins may sometimes be necessary since in some cases spillage in the feces is more in evidence than in the urine.

The porphyrin reaction appears to be a compounding of porphyrin from several sources :(1) oligodendroglia-producing porphyrins in response to allergic toxicity, (2) oligodendroglia irritation and stimulated mitosis from Progenitor Cryptocides infection, (3) direct production of porphyrins by Progenitor Cryptocides in response to the allergic reactions, (4) triggered cerebral and hepatic porphyria due to excess of minerals and presence of heavy metals, (5) deficiency states of proteins and vitamins.

Since the porphyric reaction can, and likely often does, occur locally in the cerebral tissues,

the spillage of porphyrins in the urine and feces only grossly and likely poorly reflects the local cerebral tissue saturation of porphyrins. Focal cerebral porphyric reactions without concomitant abnormal porphyrin excretion have been observed (Peters et al., 1958). Porphyrin excess and equally porphyrin deficit (chelation pool defect) produces neuronal malfunction. Chelation pool defect can be viewed as a stage of exhaustion. Current urine and feces porphyrin studies only grossly apply to porphyrin excesses and do not properly test the chelation pool defects. Trace mineral and heavy metal studies of hair and urine likely are methods of determining chelation pool defects. It is doubted that porphyrins of themselves are neurotoxic (Dean, 1971). It may be that kryptopyrrole consistently associated with porphyria is the significant neurotoxic agent and that porphyria is simply an indicator of a chelation attempt to handle a toxic state irrespective of the reason for that toxic state. This could also explain the varied symptoms of porphyria since there is such a wide assortment of toxins evoking porphyria.

In considering treatment for the porphyric schizophrenic, consider these factors: (1) Excess of minerals determined by hair, blood, or urine studies suggests a need for chelation as part of the treatment. (2) Presence of heavy metals by hair, blood, or urine studies suggests a need for chelation as part of the treatment. (3) The presence of cerebral allergic reactions needs avoidance and spacing of incriminated substances as part of the treatment. (4) Presence of liver malfunction, B-complex deficiency, or protein deficiency with the need of specific nutritional treatment as part of the treatment. (5) Culture evidence from urine or blood of a Progenitor Cryptocides infection or culture evidence of *Streptococcus Salivarius* or *Streptococcus Mitis* from oral pharynx suggests antibiotic treatment followed by autogenous vaccine therapy as part of the treatment. Focal infections should be considered in

sinuses, oral pharynx, including teeth, gall bladder, cervix, prostate, and skin. All infections wherever found should be treated. (6) General stress factors (physiological as well as psychological) enhance the porphyric reactions. All physiological and psychological stress factors should be considered as important and appropriately treated.

A cerebral allergic reaction will encourage a toxic infectious flare-up in the brain the same as an allergic reaction in the nose or throat encourages such a toxic infectious flare-up in the nose or throat, since there are hosted dormant organisms in both tissues and since the allergic reaction provides the suitable media for transformation of these latent, dormant organisms to be resistant toxic disease-producing infections. The existence of this allergic-infectious bond also helps explain why handling the patient's isolatable food and chemical allergies aids in preventing exacerbations in auto-immune diseases such as lupus, some cases of arthritis, multiple sclerosis, and so forth. It is also in the realm of possibility that some schizophrenic reactions will finally be demonstrated to be auto-immune in origin.

Infections can be treated by removal and/or antibiotic treatment of foci infection and acute systemic infection, while chronic systemic infection is best treated by vaccines, the best of which can be autogenous prepared from oral pharynx, nasal and feces (Chapman, 1961) and - urine or blood cultures (Livingston and Alexander-Jackson, 1970; Livingston, 1972). Such vaccines give evidence of holding the pathological hosted organisms in a quiescent non-pathological state. There is accumulating evidence that the autogenous vaccines are useful in preventing and treating many acute and chronic illnesses. One possibility is that of preparing a stock antigen from a urine extract (Chapman, 1961). Of interest is the claim of value for intramuscular autogenous urine infections (Newbold, 1974; Plesck, 1947). Baird (1968)

recommends a general active immunization.

It is a mistake to suppose a single allergic reaction, single-type infection, single focus of infection, single nutritional deficiency (Williams, 1971), or single metabolic error, since these invariably come in multiples. In schizophrenics I have observed an average of 10 items to which the patient maladaptively reacts on selective exposure (Philpott, 1974 b). Although treating allergy alone, infection alone, or nutritional deficiency alone favorably influences the others, the highest level of treatment efficiency is insured by simultaneously treating the multiple allergic and allergic-like responses, the multiple infections, and the multiple nutritional deficiencies.

What would be a projected adequate diagnostic and treatment program for psychiatric patients? It usually requires about six weeks of hospitalization for a good diagnostic and treatment program for a schizophrenic or manic-depressive patient. The first three weeks are ecology diagnostic centered, while the last three weeks involve chemical survey, behavioral training, physical treatment (such as electric shock, Indoklin, deep Sedac, light Sedac, electrosleep, CO₂), and trials as to the efficiency of the ecology and supernutrition program. These six weeks have set the stage by which most become outpatients. It should be emphasized that this is not the end of treatment. The patient still needs behavioral training and training in ecologic awareness. Most would do well to continue a behaviorally oriented individual and group therapy for the next two years. For some the needs can only be met by providing a protective ecologically sound individualized environment and behaviorally oriented therapy for one to two years. A properly arranged halfway house setting can provide this.

From an ecological standpoint the hospital and halfway house should be in the country away from exhaust fumes and factory smoke and not be near fruit

trees or truck farming where sprays are being used. Work with vocational value should be provided. In one to two years the patient can be resocialized, taught ecological awareness, and vocationally improved so that he may now go out into the world on his own other than visits to a doctor each three months to guide his nutritional program and support his efforts to be successful.

CONCLUSION

The common reasoning about schizophrenic symptomatology, such as possible psychological causes which without further investigation is quickly changed to probable psychosomatic causes which attitude in turn leads to no further differential diagnosis, should be changed to the attitude that there is no justification in assuming psychological causes of symptoms until the full spectrum of organic differential diagnostic possibilities have been investigated. The lack of an open differential diagnosis, including all somatic and psychic possibilities for a given symptom, is likely psychiatry's greatest error in recent years (Philpott, 1973b).

Schizophrenia, usually other psychotic states, and to a lesser degree neuroses, personality disorders, character neuroses, and learning problems are viewed as beginning with an assortment of metabolic errors of amino acids, proteins, sugars, pyrrole metabolism, and immunologic factors. These errors set the stage for toxic wrong end-products of metabolism producing deficiencies of nutrients, especially vitamins C and B6, which deficiency in turn alters the health of immunologic tissue, increasing the chances for allergic reaction to frequently eaten foods and commonly contacted chemicals and prepares the way for infectious invasion and/or change in form to pathological variants, especially by such slow-growing viruses as Streptococci, Mycoplasma, and Progenitor Cryptocides. Symptoms in schizophrenia are viewed as the focus of cerebral allergic reactions, toxins from infections and metabolic errors and

from nutritional deficiencies as primary central nervous system reactions, with sometimes the secondary aspect of content of the reaction as coming from learned responses from life experiences now being facilitated by the primary central nervous system responses. The most immediate observed cause for symptoms in schizophrenia is the cerebral allergic and allergic-like reaction, with some objective evidence that this is often a cerebral allergic-porphyrinic reaction, or even likely more accurately induces an allergic-pyroluric (porphyria plus kryptopyroluria) reaction.

Maximum porphyrin diagnostic values are likely achieved by:

- (1) quantitative 24-hour urine study when symptom free or relatively so, such as on the fourth day of a fast or after being placed on compatible foods, plus avoidance of incriminated chemicals;
- (2) 24-hour porphyrin urine study while loaded with contacts with incriminated foods and chemicals producing maximum symptoms. The simultaneous application of the avoidance of incriminated symptom-producing substances and spacing of foods, supernutrition, treatment of infections, adequate exercise and sleep, and behavioral corrective training provides optimum clinical value.

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