Men ought to know that from the brain and from the brain only, arise our pleasures, joys, laughter and jests, as well as our sorrows, pain, grief and tears; that through it we think, hear, see and distinguish the ugly from the beautiful, the bad from the good, the pleasant from the unpleasant...it is the brain which makes us mad or delirious; inspires us with dread and fear, whether by night or day; brings sleeplessness, mistakes, anxieties, absentmindedness, acts that are contrary to our normal habits. These things that we suffer all come from the brain, including madness. Hippocrates, on the Sacred Disease, XVII.

I first became interested in the history of mental illness after reading Michel Foucault's *Madness and Civilization.*

His ideas depart from the conventional train of thought in this area of study and their originality makes them very attractive; it became evident that the only rational way to evaluate his arguments, was to examine them more deeply. This examination is the starting point of this essay. It is limited geographically to England in order to show how his theories, which are conceived on a European scale, could function, if at all, at a national and hopefully more factual level.

The definition of mental illness has been a subject of much dispute over the last twenty years. Thomas Szasz believes that mental illness is a myth: "I hold that mental illness is a metaphorical disease; that, in other words, bodily illness stands in the same relation to mental illness as a defective television receiver stands to an objectionable television programme" (Szasz, 1974, p. 11). Fortunately this essay does not call for an a priori stance on the matter; we will accept the terms and the descriptions of the past; "loss of reasonable wyttys"; "madd or woode"; and the many other cases of hallucinations, delusions and depressions. However. Goethe's maxim—that the history of a science is the science itself—is still with us today and our investigation will lead us to certain conclusions on the matter. Foucault starts his inquiry into the history of mental illness by returning to the point in time when madness was still an "undifferentiated experience" (Foucault. 1967). This corresponds, according to him, to the end of the Middle Ages.

His first point is that leprosy disappeared during this period and he sees a connection between its disappearance and the confinement of the mentally ill. This connection is based on the theory that the structures of
exclusion concerning leprosy continued to live on after the disappearance of the illness. Poor vagabonds, criminals and 'deranged minds' were called on to play the lepers' part.

If the kind of structure of exclusion Foucault is referring to is to affect the insane as it did the lepers, one could expect both parties to be affected similarly. They weren't. The nature and the cause of the lepers' exclusion are totally different from the nature and the cause of the exclusion of the mentally ill.

Lepers were forbidden to enter churches or to go into any assembly of people: they had to wear a specific dress, so as to be recognized by the 'clean'. They were not permitted to have sexual intercourse and they were forbidden to touch people or any of their possessions. Each leper was separated from the community after a precise religious ceremony in which he or she was declared dead to the world and was treated very much like a corpse is before burial (Richards, 1977).

The reason for this harsh exclusion is not, as one could think, fear of infection; the evidence shows that such fear only existed well after the massive confinement of lepers in the 12th and 13th centuries. In some cases lepers were allowed to deal directly with the healthy population provided certain rules were respected. In Exeter, for example, the bishop was in charge of the restriction of the lepers who were allowed free access to the town until 1244. However, such permissive legislation was the exception.

It is in Leviticus that we find the justification of the lepers' exclusion: "The one who bears the sore of leprosy shall keep his garments rent and his head bare and shall muffle his beard; he shall cry out, 'Unclean, unclean!' As long as the sore is on him he shall declare himself unclean since he is in fact unclean. He shall dwell apart, making his abode outside the camp" (Leviticus 14, 45-47).

The radical rites of exclusion that added to the lepers' suffering originated with the Levitical concept of impurity. The Church reinforced the Levitical law in a decree of the lateran Council under Pope Alexandre III in 1179, instructing that a leper should not mix with others, share their church or be buried with them. The decree was confirmed at Westminster in 1200. Only very few lepers could afford home isolation: all the others had to seek the support of an institution.

Clearly the reasons for the lepers' exclusion are specific, as was the nature of this exclusion: a 'structure of exclusion' that does not reflect these specificities is hazy. However, the word "structure" may also be understood in the sense of "building". What happened to the leprosaria once the lepers had disappeared? The Victoria County History of England specifies the history of 72 leprosaria: 21 disappeared from the records or fell into ruin. 30 are only mentioned as leprosaria and their subsequent existence is not specified, 17 became homes for the poor and the infirm; this must doubtless have included mentally ill people in some cases. For example, the Hospital of St. Nicholas in Cumberland was filled with "pauperes, debites et impotentes" once the lepers had gone. Debilis, meaning "deprived of a natural faculty" could refer to a mentally ill person. The Hospital of St. Anthony and St. Elroy, in Cambridgeshire, is the only one to refer directly to a mad patient: In 1554 a pair of sheets was purchased "for ye madd woman in ye spitle house". Mad people were probably also confined at Holloway near Bath and at St. James Chichester, once these places had run out of lepers. In view of these figures the use of ex-leprosaria in confining the mentally ill seems more occasional than systematic; it fits more clearly into the picture of a wide spectrum of attitudes towards mental illness, which we will come to later, than into the picture of a conspiracy against madness that Foucault paints (Foucault, 1967, Preface p. 1).

Once Foucault has suggested a woolly connection between the exclusions of the lepers and the confinement of the insane, he goes on to trace a chronology of attitudes towards madness. He starts in the later Middle Ages: this is the point where it was still an undifferentiated experience. He describes the institution of the "ship of fools" which consisted in handing troublesome madmen over to boatmen, so that they might take them to some unknown destin-
tion: "But of all these romantic or satiric vessels, the Narrenschiff is the only one that had a real existence—for they did exist these boats that conveyed their insane cargo from town to town. Madmen then led an easy wandering existence. The towns drove them outside their limits; they were allowed to wander in the open countryside, when not entrusted to a group of merchants and pilgrims" (Foucault, 1967, Preface p. 8).

Paul Foriers, who mainly endorses Foucault's theories did not find one case in the texts of French judiciary decisions of madmen being entrusted to boatmen; one can certainly hope for their sake that this practice was not as widespread as Foucault suggests; a midwinter cruise along Europe's canals would hardly be equivalent to an easy wandering existence (Foriers, 1976).

In the Middle Ages madness simply has a place in the hierarchy of vices. In the Renaissance, it leaves this modest place and comes to the fore. Foucault says that it was considered as an integral part of the world during this period: madness and folly were said to make men "sport and rejoice", to reign over the ambition that makes wise politicians, over the avarice that makes wealth grow and over indiscreet curiosity that inspires philosophers and men of learning (Foucault, 1967, pp. 24-25). This new respect for madness has been explained by the advent of humanism and its joyful rediscovery of man's expressions, from the lowest—madness—to the highest (Galdston, 1967, Ch.3).

Foucault considers this respect for madness as the taming of its violence and as a liberation of its voices. The classical age, he says, reduced these voices to silence (Foucault, 1967, p. 38). "Madness will no longer proceed from a point within the world to a point beyond, on its strange voyage; it will never again be that fugitive and absolute limit. Behold it moored now, made fast among things and men. Retained and maintained. No longer a ship but a hospital" (Foucault, 1967, p. 35).

This is the light in which Foucault sees the development of confinement in the 17th century. The extent of this confinement is not to be doubted. In England, an act of 1575 dealing with the punishment of vagabonds and the relief of the poor, prescribed each county to build at least one house of correction; their development was not very considerable; however, the second half of the 17th century saw the development of workhouses, places which confined common criminals, disobedient young men, people without a profession and the insane. He explains this by stating that the age of reason could not stand for sloth: "It was in a certain experience of labour that the indis-sociably economic and moral demand for confinement was formulated. Between labour and idleness in the classical world ran a line of demarcation that replaced the exclusion of leprosy. The asylum was substituted for the leper house, in the geography of haunted places as in the landscape of the moral universe" (Foucault, 1967, p.57).

Such generalisations are unreliable, and even if they are plausible on a theoretical level, they leave an unbridged gap between themselves and man's day to day reality.

The next logical step in this examination of attitudes towards mental illness is precisely to investigate the nature of these attitudes on a factual basis (rather than at a theoretical level).

The Middle Ages and the Renaissance present a wide variety of attitudes towards mental illness. From a judicial point of view, the insane certainly appear to have had "an easy and wandering life" (Hanawalt, 1979, p. 149). Evidence shows that early 14th century juries readily pardoned a guilty person who could be proved to be non compos mentis, furiosus, lunaticus, sine sensu et ratione humana or insanitas. The guilty person was not only pardoned but he also had his chattels returned to him if he regained his sanity. The Customs of Bristol (1344) illustrate this point: they ordered that the goods and chattels of demented men be delivered to their friends until they came to a good state of mind (ad bonam memoriam) (Clay, 1909, p. 32).

Proofs of insanity most commonly used in courtrooms were attempted suicide, violent or irrational behaviour and abnormal behaviour accompanied by sickness. Irrational be-
haviour was not simply a failure to conform to the accepted norms, but rather, completely nonsensical actions: "for example. Andreas Friday was declared mad because he cut down all the trees on his property and then stuck them into the ground again expecting them to grow". .

"John, son of John Spynk of Winterton, was considered a lunatic because, prior to killing William, son of John Winterton. he entered the church of Winterton. spat on the images, and then became violent, wounding several men in the church" (Hanawalt, 1979, p. 146). Fits of insanity were often considered to occur during the crescent of the moon. Juries even specified which phase of the crescent: "Robert Angot, who had been periodically insane for twenty years, became vexed with his fury during the waxing of the moon" (Hanawalt, 1979, p. 147).

The length of time during which the accused appeared to be insane varied greatly but it was apparently necessary for legal purposes that the person be insane both before and after the crime. In one case the accused was only temporarily insane and he fully regained awareness of his terrible act: "this was Robert, son of Elene de Normanby. who had been mad for three weeks before he killed his daughter Elizabeth and John, son of Simon. Six weeks after the deed he returned to sanity and realised what he had done—'maxime lamentabat et in dies lam-entat ' " (Hanawalt, 1979, p. 147).

There is evidence of 14 cases of an insane person committing homicide; there were also a few thefts and one case of arson.

In three cases, thieves were pardoned because of their insanity. One of them was A. Friday, the man who cut down his trees and replanted them, who was accused of taking a horse. Another interesting case is that of Hugh Godware and his brother Henry; they had both stolen money from several houses; Henry was hanged but the jury pardoned Hugh, claiming that he was non compos mentis (Hanawalt, 1979, p. 148).

Hospitalization of the mentally ill is by no means a modern invention: long before leprosy had disappeared, in the Middle Ages, there were hospitals that served as a refuge for the mentally disorderd. St. Mary's of Bethlehem was one of the most famous: in 1403 it contained six men deprived of reason (mente capti) and three other sick patients.

R. Clay thinks that the utterly incurable were doomed to the iron chains, manacles and stocks that are mentioned on Bethlehem's inventory of 1398 but that are thought by some to be proper to the 17th century: "Item, vj cheynes de Iren, com vj lokkes. Item iiiij peir manycles de Iren. ij peir stokkys" (Clay, 1909, p. 33).

In other parts of the country, people suffering from attacks of mania were admitted into general infirmeries. At Holy Trinity, Salisbury, mad people were to be taken care of (furiosi custodiantur donee sensum adipis-cantur) alongside the customary sick persons and women in childbirth (Clay. 1909. p. 34). In the petition for the reformation of hospitals (1414) it is stated that they exist partly to maintain those who had lost their wits and memory (hors de lour sennes et memoire) (Clay. 1909. p. 34).

An extract of John Stow's "Survey of London" shows how insane people were usually admitted to hospital; referring to St. Mary of Bethlehem he says, "it was an Hospital for distracted people. . In this place people that bee distraight in wits, are by the smite of their friends receyved and kept as afore, but not without charges to their bringers in" (Stow, 1890). R. Clay cites the case of one young man who lost "his re-sonable wyttys" on his journey to London. He wandered about running, not knowing whither he went. Arriving in London, he was brought to the hospital and "ther yn shorte space his witte was recoveryd" (Clay. 1909, p. 31).

Unfortunately for some mentally deranged people, hospitalization was not the only reaction to their state. Sir Thomas More refers, in his Apologye of Sir T. More, Knyght' (1533) to a man subject to 'frantike heresyes' brought to him after having interrupted a church service by spitting on the images, lifting up women's skirts and being noisy in times of silence. Sir Thomas had him "taken by the constables and bounden to a tre in the strete before the whole towne. and there they striped hym with roddys
therefore tyle he waxed very and somewhat lenger. And it appered well that hys remembrance was good enough, save yt it wente about in grasyne tyll it was beten home. For he could than very well rehearse hys fawtes hym selfe, and speke and tret very well, and promise to do afterwarde as well. And veryly god be thanked I here none harme of hym now." (Hunter and Macalpine, 1963, p. 6).

A similar treatment is represented in an early 13th century window at Canterbury; it shows a poor maniac dragged by his friends to the health-giving shrine of St. Thomas. He is tied with ropes, and they belabour him with blows from birchrods. In the second scene he appears in his right mind, returning thanks, all instruments of discipline cast away (Clay, 1909, p. 32).

Thankfully for the insane, this was not the only way they were treated. There are cases in which compassion (rather than birch-rods) was thought to be the best solution. Peter Turner, for example, a Doctor of Phy-sick, wrote to the Right Honorable Lord Therle of Salisbury in 1606 about a certain madwoman. In his letter he implores Lord Therle to treat her with pity and to let her keep her child because "she is as melancholick a creature as may bee without toall Loss of her wittes the which to preaserve in sum sorte (for to restore to perfect integrity I durst never undertake) hath bene not my smalest care these two or thre yeares. Now if her belovedst chyld shold be given from her I am in great dowbt my Lord she wold with greef fall clene besydes her selff never to be recovered by any arte." (Hunter and Macalpine, 1963, p. 83).

Twenty-two years later, in 1628, Edward Warner, merchant of London left 50 pounds to Bethlehem Hospital so that some competent "phisick" was assured weekly for the "poor distressed" patients, thereby enabling "their better and spedier recovery" (Hunter and Macalpine, 1963, p. 102).

In 1654, Henry Wilkins, Thomas Pateson and Robert Whaky of Kirkhame sent a "humble" petition to the "Justices of the Peace" asking for a grant to provide for a certain John Pateson who had fallen: "into a sullen sad Melancholie, ever since not able to folowe any calling quiet in it, yet pittifull that he would walke upon the green night after night not come in any house or take meat." (Hunter and Macalpine, 1963, p. 140).

Everyman's attitude towards mentally deranged people varied greatly from case to case and possibly even from place to place; there were no fixed patterns of behavior regarding mental illness until the middle of the 17th century.

These attitudes were equally varied within the medical profession; many doctors must have shared Hippocrates' view that all the things we suffer from, including madness, come from the brain (as all doctors accept the Hippocratic oath). Modern medicine provides evidence of this today: chemical imbalances in the brain are the direct cause of hallucinations, delusions and depressions (Hoffer and Osmond, 1979). Bartholo-maeus Angelicus, a Parisian friar and pro-fessor of theology of the 13th century who wrote the great encyclopedia "De Propriet-atibus Rerum" that was used at universities in manuscript, describes in this book the cause of "melancolie", "frenesie" and "madness": melancholy is due to 'troubled drastes of blode', frenesy to problems' in certain skynnes and selles of the brayne' and madness consists in the 'infection of the formest celle of the heed'. He recommends that madmen be protected from themselves, be put in quiet circumstances, with easy access to musical instruments and that 'if purgations and electuairies suffisen not' they should have surgical treatment (Hunter and Macalpine. 1963. p. 4). However, even in the 16th century there was as much dispute as there is today on whether mental illness should be treated by physical methods or psychotherapy. William Bullein, a divine, physician and botanist declared in his "newe booke entituled the government of healthe" (1558): "The syckenes of the body muste have medecine, the passions of the mynde, must have good counsel" (Hunter and Macalpine, 1963, p. 16)

Doctors of the pre-industrial period usually considered the problem in more down to earth terms; the mental derangements were attributed to poor diet ("melancholic food")
and "strong wines which heat the body juices and burn them to ashes") (Rosen, 1968) to lack of exercise, to various psychological factors, as with melancholia, and to spiritual causes, as with demonic possession.

In recent years witchcraft and mental illness have been associated in various popular theories: obviously some of the people who suffered from hallucinations and delusions in the 15th and 16th centuries (and who thus had strange behaviour) were accused of being witches. This should not be doubted. T. Sarbin, however, suggests that labelling people as mentally ill originally started in Medieval Europe as a way to relabel people who might otherwise have been burned at the stake as witches (Sarbin, 1969). This theory does not function in the presence of the evidence of the nature of medieval attitudes towards insanity that we have discussed. T. Szasz believes that: "the concept of mental illness is analogous to witchcraft. In the 20th century, men believe that some people are insane, and that some acts are due to mental illness" (Szasz, 1973, p. 19).

However, mental illness has been considered in some sort of medical perspective ever since Hippocrates; mental illness is not a twentieth century invention nor is it proper to civilized nations.

Anthropology often adds a dimension to historical studies and in our case the work of Jane Murphy is very helpful. She has studied the behaviour which would be labelled mental illness in our society amongst the Eskimos of northwest Alaska and the Yoru-bas of rural tropical Nigeria. In her study she shows that both cultures have words describing states of hallucination and delusions, that there are various indigenous healing practices for these states and that both cultures distinguish sharply between a mentally ill person and a user of evil magic (witchcraft) (Murphy, 1976). She also shows how the incidence of schizophrenia remains remarkably constant from one culture to another (it affects approximately 0.5 percent of the population); thus, the non-western way of life does not offer any particular advantages for mental health.

Why then did the Western Europeans start to confine the insane systematically from the middle of the 17th century onwards (Foucault's question)? Most people who tackle this problem refer to the "severe social and economic dislocations" of the 16th century (Yi-Fu Tuan, 1974) which led to the existence of the notion "that there ought to be an effective organization of all agencies of public assistance, and that all facilities and resources (hospitals, domiciliary relief and the like) be united in the hands of municipal or national authorities" (Rosen, 1968, p. 142).

I think that a broader approach is more useful, if we are to understand such a widespread phenomenon. Gregory Bateson proposes such an approach; he describes societies in terms of interlinked variables, "such that for any given variable there is an upper and lower threshold of tolerance beyond which discomfort, pathology and ultimately death must occur. Within these limits the variable can move (and is moved) in order to achieve adaption. When a variable is close to its upper or lower limit of tolerance, the system lacks flexibility in respect to this variable" (Bateson, 1973, p. 496). This means, because the variables are interlinked, that one variable's lack of flexibility spreads through the whole system. The stress of population pressure within a given society for example, clearly causes this society to eat up its flexibility.

J.C. Russell estimates the population of the British Isles at two million in the year 1000, and at five million in the year 1340. The big advance during these three centuries, he says, was between the second half of the 12th century and 1300 (Russell, 1972, p. 19). It is precisely during this period that the attitudes towards imprisonment changed in England. Up until 1166 imprisonment was sporadic and coercive. In 1166 restrictions of the Assize of Clarendon enjoined all sheriffs to build prisons in counties that did not have any. These prisons were to confine on a punitive (rather than a coercive) basis (Pugh, 1968, p. 4). R.B. Pugh sees the 1270s as an additional watershed.
because in these years imprisonment began to multiply greatly. He feels that this is due in part to the increased number of trespassers and to the change of attitude towards trespassers, that this entailed (Pugh. 1968, p. 19). The increase in population did not only cause the system to lose flexibility (i.e. pass from coercive to punitive imprisonment) it also caused an increase in the proportion of imprisonable people—that is, there were not only more potential trespassers, rather, there were more reasons to trespass.

I explain the sudden and systematic confinement of mentally ill people in 17th century Britain, and on a broader perspective in Europe, by a similar process. Fernand Brandel estimates that Europe's population more or less doubled during the 16th and 17th centuries (Brandel, 1974, p. 8). This means that European society was put under pressure and such varied attitudes, as those towards mental illness, lost their variety (and flexibility). Thus, there was less room for compassion and more room for the chains, manacles and stocks that were mentioned in the inventory of Bethlehem Hospital in 1398.

I would also like to speculate that this increase in population caused an increase in the proportion of mentally deranged people; in the last twenty years, clear links have been established between unhealthy diets (i.e. insufficient vitamins, hyper and hypo-glycemia) and mental illness (Hoffer and Osmond, 1979). In a time when "population rose rapidly, wages declined and unemployment was widespread" (Yi-Fu Tuan. 1974, p. 191), it is not unwise to assume that the quality of the average diet declined and thus the quantity of mentally imbalanced people grew: this can only be speculation, because there is insufficient evidence to measure either factor. However, assuming that this increase took place, the rise in population can be seen as having a double effect on the attitudes towards mental illness: firstly, it spread inflexibility through society thereby causing the most rigid attitude towards mental illness—confinement—to be used more often: and hypothetically, it caused an increase in the proportion of the number of people suffering from mental illness, which would also lead to a less flexible position.

Confinement of the violently insane was frequent during the Middle Ages and the renaissance (it is also practiced amongst the Eskimos of northwest Alaska) (Murphy. 1976, p. 1026). It existed alongside less rigid (more "flexible") attitudes to less extreme cases. As inflexibility spread through the society, these less extreme cases found themselves confined.

In this examination of attitudes towards mental illness in pre-industrial England I have tried to show that a wide spectrum of attitudes existed during the Middle Ages and Renaissance. The nature of these attitudes dispels many unfounded but none-the-less popular notions such as Foucault's belief that madness was an undifferentiated experience in the Middle Ages, and such as Szasz's belief that madness is a creation of the twentieth century. It also dissipates less elegant but equally popular theories according to which insanity cannot be distinguished from sanity and psychiatric diagnosis betrays little about the patient but much about the environment in which an observer finds him (Rosenhan. 1973).

All of these theorists end up concluding that mental illness is a myth in one way or another—does the title of Foucault's book not imply that madness is created by civilization? Recent medical evidence has shown that hallucinations, delusions, and paranoia and depression are due to chemical imbalances in the brain: to use Szasz' terms, they are not objectionable television programmes: they are due to a defective tele-vision receiver and they necessitate the intervention of a TV repairman (Szasz. 1972, p. 11). Hippocrates said precisely this 2500 years ago. Most everybody in pre-industrial England agreed with him. I certainly do.

It is tempting to accuse Foucault and Szasz of being harmful myth-makers. Instead of this I like to see them in the more flattering light of dialectical progress, as they provide an alternative to the usual scientific enquiries (and to good sense). Unfortunately when they are considered in isolation they
must not be taken too seriously. In any case, I do not think that Foucault who writes statements like "Madness designates the equinox between the vanity of night's hallucinations and the non-being of light's judgements" is trying to convey scientific historical observations (Foucault, 1967, p. 111). Rather, he is trying to provoke some response on behalf of the reader. This he has succeeded in doing.


References
Letters to the Editor

To the Editor

On October 8th, 1980, a meeting of representatives of the Royal Australian and New Zealand College of Psychiatrists, the Royal Australasian College of Physicians and the Royal College of Pathologists of Australasia concluded that orthomolecular medicine has "no status in the practice of medicine or psychiatry, its clinical role is un-proven and the pathology tests cannot be justified for the rational practice of international medicine or psychiatry."

However, there was not a single specialist in orthomolecular medicine/psychiatry present. Also no clinical immunologist, no allergist, no nutritionist or professor of biochemistry was present.

Of those present, none were familiar with most of the tests and none had published work in this specialist field. Their discussion and reasons for their conclusion are unavailable for scrutiny and even their findings were not made available to doctors until March 3rd, 1981—nearly six months later. Doctors invited to address the Government enquiry into orthomolecular medicine on December 3rd were denied the findings, despite their being requested from the Government on October 20th, 1980.

The Secretary of the December 3rd Medical Benefits Schedule Revision Committee stated "The findings of the Colleges meeting of October 8th, 1980 were relevant to the consideration of the issue and were included in the briefing material" and "without knowledge of the Colleges' findings it would not have been possible for any individual or group to discuss or make submissions on these findings" and also the "submission" (see letter to Editor, Vol. 10, No. 1, 1981, 29-34) "was not shown to the Minister" (of Health). The Minister of Health acted on these findings and has called pathology tests for orthomolecular medicine "health screening" and thus ineligible for fund payments and retrospective, including the pathology tests recommended by Hall et al., as mandatory in seriously ill psychiatric patients especially before hospitalization to a psychiatric hospital is carried out.

The Royal Australian and New Zealand College of Psychiatry in October, 1981, announced its "opinion statement on orthomolecular psychiatry" which is now open to scrutiny.

It states as follows:

Orthomolecular Psychiatry is defined as the study of the genetic, metabolic, endocrine, immunological and toxic disturbances that are contributing to, perpetuating, exacerbating or even causing psychiatric symp-
tomatology. Megavitamin therapy represents one of its subspecialties. The term was introduced by Linus Pauling, double Nobel laureate whose expertise is chemistry. Pauling has recently turned his attention to medicine and his claims for the efficacy of ascorbic acid in the treatment of the common cold are well known.

In the preface to his book (Orthomolecular Psychiatry, edited by David Hawkins and Linus Pauling, W. H. Freeman and Co., U.S.A., 1973) Pauling asserts that deficiencies have been found in patients with many psychiatric disorders, particularly those with chronic schizophrenia. He states that improvement in mental and physical health occurs in those given niacinamide, ascorbic acid, pyridoxine; and in those for whom hypoglycemia is diagnosed and corrected. The evidence is essentially anecdotal and Pauling specifically discounts the necessity for controlled trials, and will not accept appropriate statistical norms as the yardstick by which results in this area are to be assessed.

The task force of the American Psychiatric Association of 1973 concluded that:

"In our view the results and claims of the advocates of megavitamin therapy have not been confirmed by several groups of psychiatrists and psychologists experienced in psychopharmacological research. The negative results have been obtained with adequately sized populations, employing careful observations by physicians, psychologists and nurses and employing standardised reliable psychological and behavioural rating scales and appropriate statistics. They have been designed to test the efficacy of vitamin B3 and specificity if psychiatry is to become and remain scientific, it must meet the test of scientific validity. Nicotinic acid therapy does not do so at this time. If there is to be wide professional acceptance of a megavitamin or ortho-molecular treatment program, it must be based upon demonstrable biochemical defects in this condition and upon adequately designed and carefully executed clinical experiments with data presented to the scientific and professional community in an acceptable fashion. Such publications have not appeared from proponents of the orthomolecular approach for many years".

The R.A.N.Z.C.P. is in agreement with the assessment of the A.P.A. (1973) task force and supports the view that controlled scientific studies should be conducted by appropriate impartial authorities such as the Australasian Colleges representing psychiatrists, physicians and pathologists.

The words underlined were deliberately omitted, and included now, allowing scrutiny. I would welcome the opinion of world authorities now the "opinion statement" is available for criticism.

At present orthomolecular psychiatrists in Australia have a black ban on all pathology tests since they are labelled "orthomolecular" and the patient has to pay, despite the pathology being grossly abnormal.

References


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Discussion of Opinion Statement on "Orthomolecular Psychiatry" by College of Psychiatry

This position statement merely repeats the opinions expressed by the American Psychiatric Association Task Force Report on Megavitamins and Orthomolecular Psychiatry. The conclusions of this study have been criticized by Linus Pauling (1974), and later by John Hoffer (1974), and Hoffer and Osmond (1976). The criticism by Hoffer and Osmond is a detailed examination of the committee members, of the way this committee conducted its enquiry, of the statements made and of the conclusions. We showed: (1) that the com-
Committee members had publicly declared their opposition to orthomolecular psychiatry long before they were appointed to the committee, (2) that their examination of the literature was biased and inaccurate, and (3) that the conclusions were wrong. There has been no reply to our criticism.

The College of Psychiatry has not conducted any original enquiry. It merely assumes that the A.P.A. report must be correct and it is unaware of or has ignored the detailed criticism by Hoffer and Osmond. For this reason the College of Psychiatry's statement has no psychiatric or scientific merit, even if it does succeed in withholding optimum treatment for thousands of patients in Australia and New Zealand.

A few statements are obviously due to direct personal ignorance. Thus, it is stated "Pauling has recently turned his attention to medicine." Dr. Linus Pauling's interest in sickle cell anemia is at least 25 years old and in 1957 he was awarded a large research grant from the Ford Foundation for his medical research. Twenty-five years is "recently" in the history of a nation, not in the history of one man.

It is not true the evidence is essentially anecdotal. The first double blind controlled experiments in world psychiatry and all nations outside of England were conducted on large doses of vitamin B3 by Hoffer and Osmond. We did these in 1951. Our method was published in the Menninger Bulletin in 1954 and is now the standard double blind method. I do not consider "anecdotal" a bad word. So far most of the medical treatment we use has resulted from only anecdotal research. The double blind is fast becoming known as one way, and not a good one, for testing treatments. But if the College of Psychiatry demands controlled experiments only, why do they endorse psychotherapy? Over one hundred studies have shown it to be ineffective.

Dr. Linus Pauling does not discount the necessity for controlled trials. His position is that double blind controlled studies by physicians already convinced of the efficacy of a treatment are not ethical. I agree. It is becoming more evident that all double blind experiments are not ethical because informed consent is impossible.

The final statement of the College is a cop-out. The A.P.A. is continually and vigorously preventing research into orthomolecular psychiatry and has refused to publish papers presented to them by orthomolecular practitioners. This statement is merely a statement designed to soothe the critics while removing the College from its responsibility, that is of helping develop better treatment for the mentally ill.

References

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To the Editor
I have read the conclusion concerning orthomolecular medicine that was formulated on 8 October 1980 at a meeting of representatives of the Royal Australian College of Physicians, and the Royal College of Pathologists of Australasia (AMA Gazette No. 26, May 1981, p. 15), and the opinion statement of the Royal Australian and New Zealand College of Psychiatrists, October 1981.

This last document contains many statements that in my opinion are wrong.

The definition of orthomolecular psychiatry given in the first sentence of the document is wrong. I introduced this term in 1968, and at that time defined it in the following words "Orthomolecular psychiatric therapy is the treatment of mental disease by the provision of the optimum molecular environment for the mind, especially the optimum concentrations of substances normally present in the human body, especially the vitamins." A detailed discussion of orthomolecular psychiatry is given in the book by that name edited by Dr. David

I am described in the opinion statement as a double Nobel laureate whose expertise is chemistry, and who has currently turned his attention to medicine. In fact, I worked on medical problems for more than forty years. In 1941, I, together with three of my students, reported the discovery that sickle-cell anemia is a disease of the hemoglobin molecule. This discovery is the basis of the whole medical field of the hemoglobinopathies. Thirty years ago I was given the Phillips Medal of the American College of Physicians for my contributions to internal medicine, and also was given the Thomas Addis Medal of the American Nephrosis Society. I have received a number of other medical awards, including the Lattimer Award of the American College of Urology, given to me for my work, together with Ewan Cameron, on vitamin C in relation to cancer of the urinary tract.

In the opinion statement the Royal Australian and New Zealand College of Psychiatrists expresses its agreement with the 1973 assessment of orthomolecular psychiatry by a task force of the American Psychiatric Association. The report of the task force was based upon a serious misrepresentation of the evidence, as I pointed out in my detailed criticism of it (Linus Pauling, American Journal of Psychiatry 131: 11, November 1974). It is my opinion and the opinion of many psychiatrists that improvement in the general health of schizophrenic patients by the provision of good nutrition, and especially the proper amounts of the important vitamins, niacin and ascorbic acid, increases the probability of recovery from the disease. This improved nutrition has no deleterious effects. It is safe, and it is inexpensive. For every patient there is some chance that it will improve his condition and facilitate his recovery. There is no justification whatever for banning it.

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To the Editor

The Significance of Nonimmunologic Metabolic

Versus Immunologic Metabolic Mechanisms of Disease Production

Since the late 1920's, the specialty of allergy through the subspecialty of immunology has been focusing on the varied aspects of immunology in disease production. This has led to profitable advances in medical science. This keen focus on immunologic mechanisms of biological defense has served to eclipse nonimmunologic metabolic mechanisms of defense. Through the years, observations about these nonimmunologic mechanisms of biologic defense have been made largely in general terms. The eminent immunologist, Arthur Coca (1942), observed what he termed nonreaginic (nonanti-body), nonimmunologic, allergic-like reactions. H. J. Rinkle (1951) observed what he termed masked food allergy which was later more appropriately redefined as food addiction by Theron G. Randolph (1956). Hans Selye (1956) gave us the generalization that chronic stress wears down vital metabolic forces which go through the stages of adaptation and finally arrives at a nonadapted grossly malfunctioning degenerative disease state. Coca (1956) had observed altered carbohydrate metabolism as occurring in what he termed nonreaginic allergy and even described the successful management of some diabetics on this basis. Randolph (1976) observed acidosis as occurring during the withdrawal phase of addiction and its counterpart, the acute nonadaptive reaction. It has been known for a long time that disordered carbohydrate metabolism and disordered acid base balance were cardinal features of the diabetes mellitus disease process. Broad spectrum laboratory monitoring of disordered metabolism emerging during adaptive addiction, the acute nonadaptive maladaptive state following biological recovery from adaptive addiction provided by four to six days of avoidance, as well as the chronic nonadaptive biologically fatigued state occurring when adaptive addiction can no longer be maintained reveals through all of these varying stages the com-
mon metabolic disorders of disordered acid base balance (acidosis), disordered carbohydrate metabolism (hypoglycemia and hyperglycemia), disordered amino acid metabolism and disordered lipid metabolism. This relatively neglected area of adaptation and nonadaptation (adaptive addiction and the final fatigued nonadaptive maladaptive reactive state) so long eclipsed by the intense interest in immunology is now by means of laboratory biochemical monitoring emerging as the central core of the degenerative disease process, including both physical and mental disorders. Selectivity of the organ system most affected in each individual affected by this general degenerative disease process is determined by such as genetics, prior injury, prior infection, selective toxicity, selective nutritional deficiency, chance or culturally determined frequency of contact with a specific addictant and so forth. This new interest in the varied nonimmunologic metabolic mechanisms resulting from the stress of adaptive addiction and its final metabolic fatigued state is observed to be of equal importance to immunologic mechanisms. In fact, if both quantity as well as severity of symptom production are considered, then nonimmunologic metabolic engendered disorders are more important than immunologic engendered disorders.

Furthermore, at this point in time no one has a good idea of the percentage of primary versus secondary immunologic reactions. It seems quite apparent that as the central nonimmunologic metabolic disease process progresses that there emerges a series of secondary immunologic disorders. A case in point would be an infection with secondary immunologic reactions to the infection. Even though the total disease includes the secondary immunologic reaction, the most profitable starting point for treatment consideration is first of all to appropriately treat the primary infection. It is well known as the diabetic disease process progresses, the subject's capacity to properly immunologically defend against the invasion of microorganisms is markedly diminished. Many are suffering the consequences of poorly controlled infections of opportunist microorganisms. Some are even dying because of these uncontrollable infections. Is it possibly true that most immunologic reactions are secondary to nonimmunologic metabolic disorders, that the most profitable starting point is to treat the nonimmunologic metabolic disorders first of all and through this means obtaining an improved metabolic homeostasis and follow this when symptoms continue to indicate by treating also the immunologic disorder? This appears to be true for most non-IgE immunologic disorders. There is some indication that it is true in some cases of IgE disorders. Some with bona fide IgE immunologic disorders have observed more relief by first of all being nonaddicted, appropriately well nourished, well exercised and treated with detoxifying doses of ascorbate. Some have gone so far as to abandon hyposensitization injection therapy for IgE reactions in favor of a more symptom relieving laboratory demonstrated appropriate nonimmunologic stabilization of their metabolic homeostasis. The most efficient treatment utilizes both nonimmunologic as well as immunologic factors simultaneously. However, it is more profitable in most cases to start with laboratory demonstrable nonimmunologic metabolic disorders. As medical science refines the capacity to judge primary versus secondary immunologic disorders, we will learn to know the most profitable starting point.

References

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