

It is actually an attempt to manufacture a substance called AL-721 which was developed about ten years ago at the Weizmann Institute of Science in Israel. A team of scientists led by Meir Shinitzky showed that a combination of 70% neutral lipids (such as butter), 20% phosphatidylcholine (pure lecithin) and 10% phosphatidylethanolamine (also found in lecithin) could effectively treat memory loss, impaired immune function and also ease the withdrawal effects of alcohol and drug addiction. In 1985 AL-721 (AL stands for active lipids and 721 represents the specific ration 70:20:10 percent) was found to restore immune function in elderly people and also prevent human T-cells from becoming infected by HIV. It is thought that AL-721 removes cholesterol from the envelope surrounding the virus, thus interfering with important receptor configurations to render the virus noneffective. Many studies have shown AL-721 to be non-toxic and anecdotal reports from several centres indicate that most people

improve while taking this butter-like substance. One small study with seven people conducted at St. Luke's Roosevelt Hospital in New York City demonstrated a dramatic 80-90% decrease in HIV levels and in some no HIV activity could be found at all after two weeks. However, official recognition, follow-up studies and FDA approval in the U.S. is not forthcoming.

Some lecithin products in Australia supposedly contain the right balance of phosphatidyl choline and phosphatidyl ethanolamine. There are people who feel that all that is needed is to combine such a product with butter and a little egg and blend in the kitchen. According to reports, the actual manufacture of AL-721 is not quite as simple as this kitchen wizardry implies.

However, the greater the success stories arising from the use of these non-toxic (though non-tested) approaches, the less is the interest in the frustrating research for increasingly more toxic drugs to treat the problem.

Nutrition and Behaviour

Dr. G. E. Schuitemaker¹

The week *The Lancet* published the article 'Effect of vitamin and mineral supplementation on intelligence of a sample of school children'¹, Dr. S. J. Schoenthaler from the California State University visited the Netherlands to lecture for a medical audience about the influence of nutrition on behaviour. This was a pleasant coincidence. In the Netherlands as well as in the United Kingdom, the attention of the medical world was strongly drawn to the influence of nutrition on mental functioning, both in the field of learning performance, and in the area of anti-social behaviour such as criminality and delinquency. Also, in the lay press much attention was paid to this work; it was front page news and was broadcast by the national radio stations. The BBC television made a report² on the mentioned research which was published in *The Lancet*.

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The trial with school children

Mr. G. Roberts, school teacher, initiated a trial in which he wanted to prove the hypothesis that the nutritional status of his pupils was poor and that supplementation with a multivitamin/mineral tablet would improve the learning ability. He invited Dr. Benton of the University of Swansea to take care of the statistical analysis. With a Nutritionist HI computer program that is based on US FDA normative data for the dietary composition of food, the nutritional status of the children was established. The food supplement which was used in this trial was composed according to that in Table 1.

Ninety school children aged twelve and thirteen years were involved in the trial. For three days they kept a dietary diary, from which the researchers determined their nutritional status. The outcome was that in most cases the average intake of vitamins was close to the RDA, although for a minority the intake was low (especially

Table 1. Composition of food supplement used in the British trial.

Vitamin A	375 mcg	Vitamin D	3 mcg
Vitamin B1	3.9 mg	Vitamin E	70 IU
Vitamin B2	5 mg	Vitamin K	100 mcg
Vitamin B5	50 mg	Bioflavonoids	50 mg
Vitamin B6	12 mg	Calcium gluconate	100 mg
Vitamin B12	10 mcg	Magnesium	7.6 mg
Niacin	50 mg	Zinc	10 mg
Folic acid	100 mcg	Iron	1.3 mg
Choline bitartrate	70 mg	Manganese	1.5 mg
Inositol	30 mg	Chromium	0.2 mg
Biotin	100 mcg	Molybdenum	0.1 mg
PABA	10 mg	Iodine	50 mcg
Vitamin C	500 mg		

vitamin D and folic acid). With almost all minerals, the RDA was less often achieved. A substantial minority of girls consumed less than half the RDA.

Thereafter the ninety school children were divided in three groups of thirty. During eight months one group received the supplement on a daily basis, the second group got a placebo and the third group got nothing. As intelligence tests were chosen the Cognitive Abilities Test and the Calvert Non-Verbal Test. After the eight months the supplement group showed a significant increase in non-verbal intelligence in comparison to the other two groups. In the verbal test no significant results were shown. But it has to be stated that the non-verbal test is more indicative for the abilities of a person, while the verbal test is more influenced by social factors.

The researchers summarized: "In conclusion, the administration of a vitamin/mineral supplement to a sample of children, whose diet seems in many ways typical of British society, resulted in an increase in their non-verbal intelligence. The implication of this finding is that dietary deficiencies are hampering neural function in these children. Clearly the study must now be replicated, and if the provocative conclusions are confirmed the underlying mechanism must be established."

Trials of Dr. Schoenthaler

Dr. Schoenthaler did research on a million school children in 803 New York schools³. His findings were as striking as the results of the British trial. During seven years (1976-1983) the learning performance of these school children

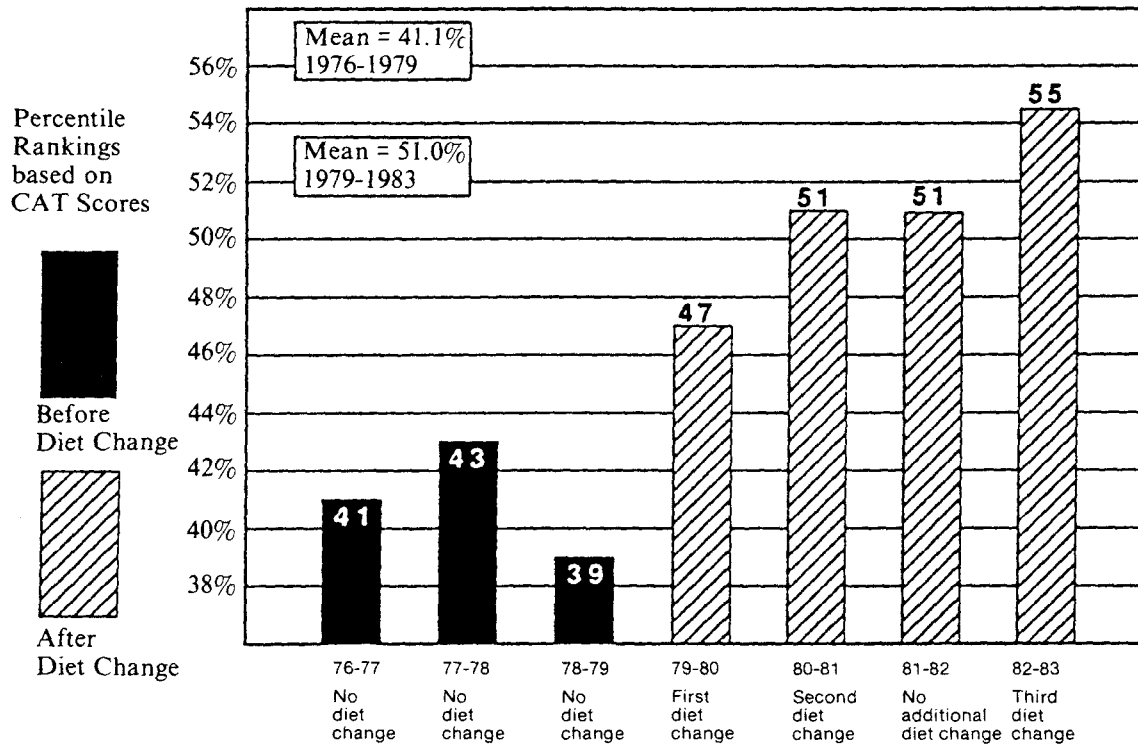
was established with the California Achievement Test (CAT). In 1979 the first change was made in the diet. There was a gradual elimination during the following years of synthetic colours and flavours and selected preservatives (BHA and BHT). At the same time, high sucrose foods were gradually eliminated or else the quantity of sucrose was reduced. No changes in the diet were made during the 1981-82 academic year. The results are shown in Table 2. Notable is that the changes in the CAT-scores occurred during the years in which the diet was altered. In 1981 no change could be registered. The overall change was a 15.7% gain in learning ability in comparison with schools which remained on the old diets.

Though the procedure of this research was not the same as the British trial, both results indicate in the same conclusion, namely that nutrition can have a significant influence on learning abilities. This data is quite revolutionary (especially for social scientists). Dr. Benton of Swansea University (he is a psychologist) stated that when he was asked to cooperate in the trial, he did not believe that there could be a correlation between nutrition and intelligence².

In his lecture in Castle Zeist The Netherlands in January 1988, Dr. Schoenthaler stated that from 124,000 children who before the diet change were totally unable to learn grammar and mathematics, 75,000 could do these basic subjects after the diet change. Also in his research in different penitentiaries in the United States he found that nutrition had a dramatic effect on the anti-social

Table 2. National rankings of 803 New York City public schools before and after diet changes.

(From: *Int. J. Biosoc. Res.*,(8)2; 1986)



behaviour of the criminals. In explorative research in Virginia with 68 criminal children, the total of anti-social acts diminished in 80% of the children after 7 months of a changed diet. In a follow-up research with 276 children, the other group received healthy foods. The difference in anti-social acts between the two groups was almost 50%. Even more interesting, it was the worst class of offences which showed the most dramatic reduction: assault fell by 82%, theft by 77%. The delinquents who had been convicted of the worst crimes (assault, rape, robbery and vandalism) benefited most of all. All institutions which cooperated in the research did not return to the old habit of the junk food diets.

European top-cooks go for organic foods

During his stay in the Netherlands, Dr. Schoenthaler and his wife were guests of honour at a special lunch, organized by the top cooks of Europe. These cooks belong to the association European Community of Cooks: "Eurotoques". The initiative was taken by the best cook of Belgium, Pierre Romeyer. He invited the top cooks of other

European countries (of whom the French cook Paul Bocuse is probably the most famous) to join him in his efforts to control the quality of foods they use in their kitchens. They boycott poor quality foods and introduce more organically grown foods. In their code of honour they state: "The cook is only allowed to use products of high quality. He is obliged to refuse to work with raw materials of inferior quality."

For this lunch, only the best foods were served, chosen for taste and quality, and organically grown. The Dutch chief cook, Cas Spijkers, host for the lunch stated: "At first we had the impression that alternative agriculture produced more nutritious food. That may be, but for us, our first priority was to serve something delicious for our guests. We then discovered that alternative agriculture means better tasting produce." One of the biggest barriers to the introduction of organically grown foods is the infrastructure of food distribution. The cooks may demonstrate a keen interest in good foods, but it will take time to attune food production and distribution to the demands of these cooks.

The existing result of this event, is that the connection has been established (perhaps only symbolically), between the masters of taste (the top cooks of Europe), and a master in health science, Dr. Schoenthaler. Through their combined efforts, the trade in good foods in Europe will hopefully alter in a favourable way.

References

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