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Johanna M.P. Edema

HIGHBROW VERSUS LOWBROW IN NUTRITION EDUCATION

INTRODUCTION.

In order to find even a glimmer of an answer to the question why people are in general so slow in accepting the scientifically sound messages of their nutrition educators, a clear-cut distinction has to be made between two fundamentally different kinds of knowledge: highbrow or scientific Nutritional Knowledge and lowbrow or practical Food-knowledge. For where experience, knowledge of life breeds the last, the university breeds most definitely the first.

THE UNIVERSITY: BREEDING-GROUND FOR NUTRITIONAL KNOWLEDGE.

As any science, the social sciences included, aims at stripping objects and phenomena from their outward manifestations in order to reveal their hidden nature (Kaku, as cit. by Beekman, 1995), one needs a school-leaving certificate of an institute for secondary education when one wants to become a university trained nutritionist. For that is the only way one's professors can rest assured,

- that his knowledge of arithmetic is far beyond the multiplication tables of the elementary school,
- that he can read and write as well as comprehend written texts and express himself in writing,
- that he has gained a general knowledge of the sciences,
- that he has mastered the art to reason about the hidden nature of objects and phenomena, or more concisely said: he has mastered the art of abstract reasoning, and
- that his is an inquiring mind as it is instilled upon him;
 - that in the course of time everything and anything will be subjected to scientific investigation,
 - that experiments will eventually prove that some facts are true and others false, and
 - that on certain conditions a new discovery is a sure sign of scientific advancement.

(Boltanski: p.79; Mostert: p.40)

In the years ^{spent} on secondary education he and his classmates will as well been exposed to a sprinkling of facts and figures about nutrition. So they will have at least a rough idea about the kind of metabolic processes food-intake triggers off in humans.

THE HOUSEHOLD: BREEDING-GROUND FOR PRACTICAL FOOD-KNOWLEDGE.

However, these bits and pieces of educated nutritional knowledge

are next to nothing compared to the large body of practical knowledge they culled from the day of their birth from the food-ways of the social environment into which they were born and bred. Because a predilection for a certain style of cooking and a specific bill of fare nor adherence to a particular set of daily meals or a distinct set of table manners are not inborn habits nor habitual modes of behaving the older generation has impressed upon them like the stamping machine puts stamps on letters and parcels. On the contrary every new generation masters these habits the hard way by adjusting themselves in the end to the whole range of pleasant, not so pleasing and even straightforward repulsive food-ways their elders favour. It should, however, never be overlooked, that any child may well have enough stamina to outlast his parents' patience as well as the whole gamut of tricks, like soft talk and harsh words, coercing and pacifying intonations, tactile and gestural interaction his elders bring into play each time they want him to swallow some pungent, astringent, sour, bitter or otherwise horrible stuff. Of course, he will not always carry off the price, but he will nevertheless master some very useful bargaining techniques. Well before his first birthday he will therefore have developed a whole system of durable dispositions - a habitus in Bourdieu's terminology - which predisposes him on the one hand to like and appreciate what he is supposed to like and to appreciate and to dislike and to turn down what he is supposed to dislike and to turn down and at the same time to look for opportunities to bargain with his elders. This implies that our food-ways are a mix of inculcated social behaviour and a leaning towards bargaining. (Bourdieu, 1992; Johns, 1994; Spock, 1987; Widdowson, 1981).

The expectations, individuals are confronted with, and the bargaining techniques they develop, are closely tied to the household as a social institution of which the most concise description reads:

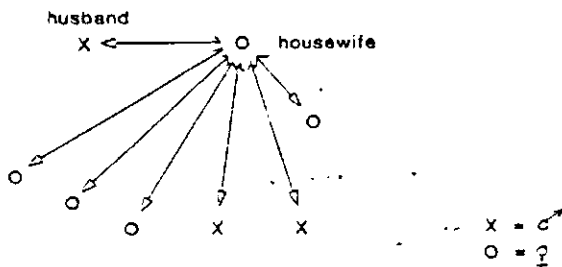
- it is a skeleton of five main values, notably
- I. the members of a household should first and foremost form a unity.
 - II. it's members physical wellbeing should be taken care of,
 - III. it's members spiritual welfare should be heeded ,
 - IV. there should be room enough for activities outside the home,
 - V. no member should violate the above values.

whereas the viability of one's household, depends upon the strength of its three pillars, which are

- its economic web of assets and liabilities,
- its social structure, that is: the structured interactions between the members of the household,
- and its cultural system that is made up of all the minor values and norms that amplification of the five main values brings about.

The structured interactions the second value - taking care of the physical well-being of the members of the household - generates and which are of prime importance in Nutrition Education centre on the housewives or matrons, if you like, are depicted in figure A.

fig.A. Social Structure generated by value II.



THE PRACTICAL FOOD-KNOWLEDGE OF MATRONS

Shouldering the responsibility for value II breeds a special brand of practical - that is: usable as well as useful - food-knowledge. For as soon as a young woman embarks upon her housewifely career she will discover, that some of her husband's ideas on food and cooking, on mealtimes and table manners, on healthy and unhealthy food-habits seem to reinforce hers, that others are readily fitted into the food-ways she herself is attached to, whereas some are in her eyes so outright monstrous that she decides to try and redress them. This will not only put her patience, creativity, and perseverance to the test but above all her marital skills. Because she is as much under the obligation to beware the unity of her household as to look after her husbands' physical wellbeing.

However, when interviewed many housewives told the investigator, that they learned very early in their married life, that their husband expect meals not assorted foods for dinner, likes square meals when their appetite is large, but want a light meal when they have once more to go out and play games; that in order to have him eat his vegetables, one interviewee had better substitute raisins for sucre when preparing red cabbage, another season her carrots the American way with pepper or pepper and nutmeg, a third cross tomatoes and cucumbers from her list of vegetables, a fourth drop yellow peas from her repertory of daily meals, when she decided to cut down on bacon fat, and a six not to put lentils on the table as long as she did not know how to turn them into a meal, and so on and so forth. (Poody & Blom; Edema & Hermans, 1992; Da Costa & Duister; Edema, 1988).

A housewife's food-knowledge will become even more matronly as a result of her experiences with the effects of the consumption of certain foods on morning sickness and heartburn during pregnancy, her observation, that her breast-fed child becomes very uncomfortable each time she has eaten some onions and that he refuses even her breast when she has indulged herself with bell pepper, and that his motions show traces of orange fiber after she fed him some unstrained orange juice, and that in times of minor ailments or serious illnesses usual food-preferences and food-

aversions will sometimes change overnight. Whereas her interactions with her in-laws might well teach her, that she had better introduce her children very early in life to a very broad spectre of foods and to quite sophisticated table manners, because her mother-in-law cannot stand dainty eaters, and her father-in-law is if anything a stickler to good table manners. In other words: marriages - pseudo-marriages included of course - are ideal breeding grounds for matronly food-knowledge.

It was therefore not to be wondered at, that in one of our investigations many a matron confided to the interviewer that she was too skilled a housewife to be interested in courses on food and nutrition, but that young wives would greatly benefit from that kind of courses, in particular those, who had prior to their marriage been employed in a white collar job. Other matrons and most younger wives were less self-confident, as they would like to attend such courses. With the proviso, however, that they would learn more about cooking in general and cooking with modern appliances in particularly, whereas no more than two out of 50 interviewees were interested in a more nutrition-oriented course. One because she did not know how to apply the nutritional rules she had learned at school as at mealtimes her aged mother, her self-employed baker-husband, a baker's man of 18, a servant girl of 14, her five children - the oldest 10 years old and the youngest not yet one - and she herself, either expectation or nursing, gathered around her dining-table, whereas she had neither the time nor the energy for cooking elaborate meals as she had not only to look after her housekeeper's tasks but to mind their baker's shop and to keep the bakery-books as well. In other words: she wanted to learn how to prepare nutritionally sound meals for every single member of her family without disrupting her household's economic web. The other, too, had seemingly this economic web in mind, as she asked for an integrated course on management of the household purse and nutritional knowledge. (Edema, 1966).

A FAMILY MAN'S FOOD KNOWLEDGE.

For a housewife a broad and varied food-knowledge has its advantages because it underpins very effectively her position of matron in the social structure of her household. Especially so when her food-knowledge is broader and more varied than that of her family man and of any other member of her household. Of this the working wives, who participated in an investigation, where the group-interview-technique of P.H.Taylor was tested, were at least subconsciously very much aware.

Scattered data from other inquiries revealed moreover, that wives and husbands are sometimes afraid, that the gap between her and his food-knowledge might widen too much. This was, for instance, quite evident in an interview, where the wife was asked if she might be interested in courses on food and nutrition and her husband retorted very forcible indeed that she did not need them as she knew already everything she needed to know on that subject. Where upon his wife showed signs of sadness and disappointment, but she held her peace. In the absence of their husbands some other women replied with resignation to the same

question 'I'm afraid, that my husband would not permit me to', which points in the same direction. It is not clear to what extent these husbands had explicitly told their wives that they didn't want them to take such courses or that their wives went merely by what they thought their husbands' verdict would be. On the other hand there are also indications, that some husbands don't want to learn too much about food, for fear that their food-knowledge might undermine their wife's position within their common household. But again it is not clear if they go by their ideas about what a good family man befits or rely on conjugal exchanges of opinions. (Vaarten; Edema, 1966, Poedt & Blom).

CHILDREN'S FOOD-KNOWLEDGE versus NUTRITIONAL KNOWLEDGE.

Such verbal and non-verbal interactions between husband and wife, family man and matron will reinforce in the child his earliest predisposition to accept that his mother knows best how and what to feed him, how his food should be prepared, and how his meals ought to be composed. And because such a disposition is durable, it generates and organizes his reactions to any tuition in Nutritional Knowledge he might be exposed to. (Bourdieu, 1992). Which came nicely to the fore in a try-out in a class of 10-12 year olds of new teaching material on the following subjects:

- what causes food-decay,
- how best to protect perishable foods at home,
- how to read labels on canned and sealed foods, and
- how to imitate certain ready-made desserts.

As these children had not been very eager to learn about food-deterioration or on methods to forestall food-spoilage nor in the possibilities to imitate ready-made desserts, the investigator asked them afterwards if they thought to apply at home what they had learned on these subjects. In their answers they did not beat about the bush but said without much ado, that they would not, as their mothers were supposed to take care of that kind of things. (Nuesink).

In another inquiry into Nutrition Education in the Primary School the 168 children involved produced between them 828 different labels, when first asked to break up a very inconveniently arranged list of some 30 foods in any number of neat little lists they liked and to put thereafter a name to every single list they had compiled. (Annex I). It turned out, that more than half of their labels said something about the kind of foods they had grouped together, a third either to their place in the repertory of daily and weekly meals or either to their gustative qualities, whereas not yet 2 percent referred to questions of healthfulness. Which seems to point to the very same situation: not the child himself is supposed to look after the healthfulness of what a 8-10 year olds ingests but someone else. So when still at school this kind of knowledge is still not usable and therefore impractical to burden oneself with. Moreover, these and other data from the same study, in which all in all 23 test-papers were used, made it very likely indeed that children are in the habit of classifying foods in accordance with the round of daily meals and not to their nutritive value as nutritionist do when developing Nutrition Education Aids. (Annex I)

This hypothesis was tested and as yet not falsified. (table B)

Table B. Test: In each row of 4 words one word does not fit.
Which one? Why not?

answer	a ¹⁾ b ²⁾ c ³⁾		
	a	b	c
right criterium x right word	30	26	3
right criterium x wrong word	10	-	-
wrong criterium x right word	23	29	19
wrong criterium x wrong word	37	45 ¹⁾	78 ²⁾
total (%)	100%	100%	100%
total (abs)	1231	1160	1298
no answer	194	265	127

1) 3 words from same, 1th from another segment of the tentative Children's Food Disk.

2) Ditto of the Maaltijdschijf.

3) Ditto of the Voedingsolank.

¹⁾ 15% included in the 45% "wrong criterium" were "mealtime"-criteria.

²⁾ 15% included in the 78% "wrong criterium" were "mealtime"-criteria.

In two other studies 8-12 year old schoolchildren and middle-aged housewives respectively were asked to name the differences and similarities between 18 sets of three vegetal foods. As it turned out the frequency with which similar criteria were used reflected quite nicely differences in their respective food-responsibilities. (table C)

Table C. DISTINGUISHING BETWEEN RAW VEGETABLES

Method: repertory grid technique.

Vegetables: tomato, carrot, cucumber, butter-bean, cauliflower.

population A: 102 schoolchildren 8-12 years old

B: 20 fulltime housewives 42-63 years old

criterion	times mentioned		rank order	
	A	B	A	B
shape	429	13	I	IX
eaten cooked/raw	132	103	II	II
colour	129	33	III	VI
vital features	128	19	IV	VII
palatability	81	38	V	V
versatility	29	171	VI	I
consistency	28	14	VII	VIII
taste	15	54	VIII	IV
wholesomeness	9	79	IX	III
(various)	(31)	(47)		

(after Wapenaar & Schellens)

MATRONLY FOOD-KNOWLEDGE versus NUTRITIONAL KNOWLEDGE.

Up till now there was no opportunity to test the hypothesis, that the above mentioned Nutrition Education Aids are not only too highbrow for children but for housewives as well. It is, however, very unlikely that this hypothesis can be falsified as most housewives lack the education, that might enable them comprehend the nutritional messages these aids contain, let alone discover on their own account the underlying scientific principles. Consequently there is not only every chance, that they will link the rules they are supposed to learn from these Aids to a different principle, they actually do so. Boltanski recorded, for instance, that a young mother had been told to delute the milk for her baby with boiled water and to scald out the feeding bottle and teat regularly. But instead of boiling water from the tap she deluted her baby's milk with mineral water. 'Because' she said, 'tap-water is very dirty indeed for one finds a whole layer of dirt at the inside of any well-used kettle.' She had moreover understood, that the instruction 'the feeding bottle and teat has to be scalded out regularly' meant, that one had to boil these appliances as one did with one's underwear: once a week. (Boltanski).

A letter to the Dutch Nutrition Education Bureau proofed as well, that the background of even very popular nutritional rules are sometimes quite clearly mis-understood, as it read: 'my son is not yet 15 years old but 1.80 m tall, should he still take his milk?'. Whereas an investigation into the consumption of pulses revealed, that the message 'reduce your fat-intake' had missed it's mark on two points. Firstly because the interviewees had not been aware, that 'fat' in the nutritionist's jargon is not synonymous with bacon fat, but encompasses all visible and invisible edible glycerides of fatty acids. So as soon as their circumstances allowed them they exchanged butter for bacon fat or dropped even the traditional pulses-cum-bacon-fat meal altogether from their weekly bill of fare because 'pulses without bacon fat don't taste well'. A sure sign, that each edible fat has it's own culinary worth. Very recently we came, however, upon a case where a housewife had tried to reduce her family's fat-intake by substituting lard for bacon-fat in her recipes for pureed potatoes-cum-vegetables. (Boltanski; Edema, 1966, 1988)

CONCLUSION.

In this paper food habits were stripped of their outward manifestations and thus a thing of two, three was revealed about their hidden nature. Which lead inevitable to the conclusion, that the effectiveness of Nutrition Education Programs depend directly on the real quality of what is known about the Food Knowledge of the different target populations. Which asks for much research into the vast area of Practical Food Knowledge.

Annex I

CHILDRENS' CRITERIA FOR CLASSIFYING FOODS.

457 x KIND OF FOODS	e.g. 'fruit', 'bread', 'drinks', 'dairy products'.
142 x PLACE IN REPERTORY OF MEALS	e.g. 'for Sunday', 'are desserts', 'for breakfast'.
138 x GUSTATIVE QUALITIES	e.g. 'soft / crispy', 'sour / bitter / sweet', 'like / don't like them'.
25 x ORIGIN	e.g. 'come from the baker', 'come from cow / pig', 'grow on the ground'.
11 x HEALTHFULNESS	e.g. 'are healthy', 'are fattening'
55 x various	

FOOD-CATEGORIES in MEAL DISK

CATEGORY	NUTRITIONAL VALUE OF FOODS
I	≥ 40 E% starch & minerals & vitamins
II	≥ 20 mg. vit.C / 4200kJ
III	≥ 10 E% protein
IV	vit. A and D.

FOOD-CATEGORIES in FOOD BOARD

CATEGORY	KIND OF FOODS
BASIC FOODS	unrefined vegetable & lean animal foods mainly
SUPPLEMENTARY FOODS	vegetable & lean animal foods rich in linoleic acid
SUPERFLUOUS FOODS	refined vegetable foods & animal foods rich in fat

CHILDREN'S ROUND OF DAILY MEALS

(after Van Maaswaal & Roorda)

TIME	FOODS	DRINKS
BREAKFAST	bread & butter & spreads*) & savouries#) / cereals / fruit	milk, tea buttermilk yoghurt
MORNING BREAK	fruit / sandwich / cookies	milk
NOON	bread & butter & spreads & savouries / fruit	drinks
MIDDAY BREAK	cookies / sweets / fruit	tea, softdrinks
DINNER TIME	potatoes /rice / pasta / pancakes meat / egg / cheese / beans, gravy / ketchup, different vegetables / applesauce, custard / yoghurt / fruit / jelly / cream.	
BEDTIME	cookies / chips / nuts / fruit.	softdrinks milk, tea

*) sweet spreads like: jams & marmelades, chocolate paste, sucered caraway seeds, aniseed comfits, chocolate sprinkles, etc.

#) savoury spreads like: cheese, egg, thinly sliced ham, liver, smoke-dried beef, and different kinds of sausages, etc.

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