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The Diet in Boarding Schools at the End of the Ancien Régime

Willem Frijhoff and
Dominique Julia

From Mathurin Cordier to Restif de la Bretonne, via Charles Sorel and Jean-François Marmontel, there is no lack of literary evidence about the food served to boarding students during the Ancien Régime. Although these students lived under various boarding systems—ranging from Marmontel's bed in a private home to Sorel's room and board with a schoolmaster and on to being a live-in boarder at the school—the various comments about the diet seem to have two points in common. The amount of food was *insufficient*. “Oh, God, what pitiful fare, like that only the pigherds of our village would eat!” exclaimed Francion shortly after his arrival at the home of Hortensias, a schoolmaster in the Collège de Lisieux in Paris.¹ And it was of *low quality*. In his memoirs the Count of Vaublanc recalled a general student riot at the Military School of Paris during the academic year 1770/71, provoked by the poor quality of the dishes being served.² Although we are reduced to recording the groans concerning this second complaint and are unable either to exonerate or condemn the cook, in the case of the first complaint it is possible to measure quite accurately the amount of food served to boarders, at least at the end of the Ancien Régime.

The Sources of Information

Indeed, the account books of eighteenth-century *collèges** are not lacking. Yet we must simultaneously keep in mind both the presence of students and the

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*In contrast to its English cognate, college, the French *collège* was—and still is—a secondary school, rather than a university.

The four institutions studied in this article are representative of the regional diversity of France. The royal Military School was located on the outskirts of the capital. Molsheim is a small town near

changes in the expenditures for their upkeep. This double requirement—a requirement for any study of food rations—led us to focus our attention in this study upon the secondary boarding schools at Auch and Molsheim, the Military School of Paris, and the Collège des Bernardins at Toulouse, a sort of seminary school within the Cistercian order.

At the Military School the bursar recorded the amount of bread and wine consumed daily, showing for each of the four meals (breakfast, noon-hour dinner, afternoon snack, and evening supper) the number of pupils “in prison,” [that is, confined to their quarters for disciplinary reasons]. The same attention to details was applied to professors and masters, to the domestic staff, and to the kitchen help. The only extant account book is the one for 1767.³

At Auch the records of the income of the boarding school provide the names of boarders for each trimester (although their parents paid quarterly) from 1 November 1773 to 31 October 1779. In addition, three books of expenditures for the same period show, month by month, the purchases made for the boarding school.⁴ For Toulouse, we have the account books for the *collège* for the year 1754-55.⁵

The boarding school at Molsheim kept better accounts than the other three institutions.⁶ On the one hand we have for each academic year from 1767/68 to 1787/88 a “general accounting,” which summarized under main headings the institution’s income (from fees paid by pupils for private rooms and for board, with precise notations of entrance and exit dates) and expenditures. Expenditures were broken down into two subgroups, “domestic expenses,” that is, cash purchases, and “commodities and their monetary equivalent,” that is, supplies produced and consumed by the *collège*. In addition, for each academic year between 1768/69 and 1789/90 there is a register, with a page for each pupil, of the credits and debits, “paid in part with the cash deposited by the boarders and in part the money spent for them by the *collège*.” These accounts specify the geographic origin and the class of the paying or scholarship student. In addition, there is an account book of expenditures made between 1 November 1767 and 30 April 1791, which shows for each month the purchases made by the institution (even when these are fictitious purchases corresponding to articles produced at the school). These purchases are divided into various categories: bread and flour, wine, fish, butter and cheese, eggs and milk, fruits and vegetables, *épicerie* [sugar, jam, rice, salt, and so forth], candles and oil, heat, furniture, upkeep, and miscellaneous expenditures.

The Student Body

As a first point, the high cost of board limited the gamut of social groups represented by the parents sending their children to the *collèges* studied here.

Strasbourg in the Germanic province of Alsace, annexed to France in 1648. Auch (a major city in the Armagnac region, or Gascony) and Toulouse (capital of the province of Languedoc) were part of the southern regions speaking the *langue d'oc*, where the agriculture was basically Mediterranean.—Trans.

Board cost 360 *livres tournois* a year at Molsheim, and 420 *livres tournois* at Auch (but, since most pupils only attended school for ten months, the respective costs would be 300 and 350 *livres tournois*). We know that admission to the Military School was reserved for the sons of "poor" nobles who could prove four quarters of nobility.

Enrollment in the boarding school at Auch, which began its first school year in October 1773, was largely regional, limited specifically to the confines of the *généralité* of Auch. All the evidence we have been able to find about its student body reveals a large proportion of young nobles. The boarding school of Molsheim, which, like that of Auch, was run by secular priests, first opened its doors in the fall of 1767.⁷ Twenty places were reserved for scholarship students, with ten places for boys born in the city of Haguenau and ten for boys from Séléstat, to compensate for the elimination of the institutions in those cities after the expulsion of the Jesuits. Although these scholarships were awarded, as the letters patent of 5 July 1766 specified, to children from the "largest families," the clause reserving them for the "least opulent" families does not seem to have been respected.⁸ Family dynasties of local notables shared these scholarships, which were awarded and supervised by the municipal oligarchy. The other boarders, with the rare exception of a few important French or German lords (such as the Welsers) came from the Alsatian upper middle class. All four *collèges* therefore drew students from a restricted circle of privileged families.

The Methodology Used

In order to obtain the results presented here, we had to work our way through the registers and establish for each type of food a table of quantities and prices, month by month. Calculating the days/meals at the Military School posed no problem, since the number of diners was recorded for each meal. For Molsheim and Auch we made cards for each student, showing the dates of his arrival and departure (for vacation or because of illness). Then we calculated the numbers of days actually spent in the *collège*, month by month, including the arrival day but excluding the day of departure.

For domestic and administrative staff, the impossibility (except at Beaumont) of determining absences forced us to count them present throughout the year but with their total number reduced; besides, if they were not actually present that many days, it would merely increase the average ration that we have calculated. Last, at the Bernardins of Toulouse, the school year ran from 2 November to 20 August, so we based our days/meals upon those dates but assumed that at least four staff members would remain during vacation.

That left only the daily ration to calculate. The often touchy metrologic questions involved in converting pre-Revolutionary measures to the metric system were solved with the help of tables published during the Revolution and the Napoleonic Empire. The overall results were obtained by determining an average for the six years available for Auch, for the twenty years at Molsheim, and two averages based on decades (1767/68 to 1776/77 and

1777/78 to 1786/87). We believe that this procedure has eliminated errors based on pure conjecture.

The Food Budget for Molsheim

During the twenty years in question [fall 1767 to spring 1788] the food portion of the total budget of the boarding school showed almost no variation, the low being 77 percent in 1771/72 and the high 86 percent in 1767/68.⁹ Bread, wine, and meat always accounted for over two-thirds of the food budget, but after 1770 there was a clear drop in the amount spent for wine (from 30 percent down to 22 percent). The amount spent for meat showed much less fluctuation (between 25 and 30 percent), while fish decreased from 8 percent to 6 percent. All other categories showed a clear increase: butter and eggs rose from 7 to 11 percent, *épicerie* and sugar from 3 to 5 percent, cooking oils from 1.3 percent to 3.5 percent, and fruits and vegetables remained between 3 and 9 percent, with marked fluctuations reflecting economic conditions. The cost of bread poses a problem. After having constituted 16 percent of the food budget during the initial three years, it climbed to 23 percent in 1770/71 and then suddenly jumped to 27 percent in 1771/72, after which it remained permanently at about 20 percent, in other words, slightly higher than at the beginning of the twenty-year period.

The Wheat Shortage of 1771

There is no doubt that in Alsace the increased expenditures for bread must be blamed upon the Alsatian wheat shortage of 1771. But we must also try to determine whether this increase corresponds to a similar increase in the amount of bread eaten. The account books tallied the bread (chiefly brown bread) by the large round loaf, whose price between 1767 and 1791 remained stable at four sous [for a small loaf] and eight sous [for a large one]. These increased expenditures therefore suggest an increased consumption of bread. Strasbourg can serve as an example of how this worked: the highs and the lows are not based upon the *price* but upon the *weight* of the loaves. So, in 1770, the local officials undertook a reform of the bakeries and established new official prices. From then on the loaves would have a *fixed weight*: three pounds or six pounds for brown bread. The price per pound of the loaf changed when the *rézal* of wheat increased or dropped twenty sous on two successive market days.¹⁰

Using those data we calculated a daily ration of bread loaves for each month between November 1769 and March 1772, and then a theoretical ration in kilograms, assuming that the weight of a small loaf remained at three pounds throughout the shortage. (See fig. 5.1.) The absurdity of such computations is immediately evident, since for February 1771 we came up with the aberrant ration of 1.424 kilograms. On the other hand, since we know the price per *rézal*

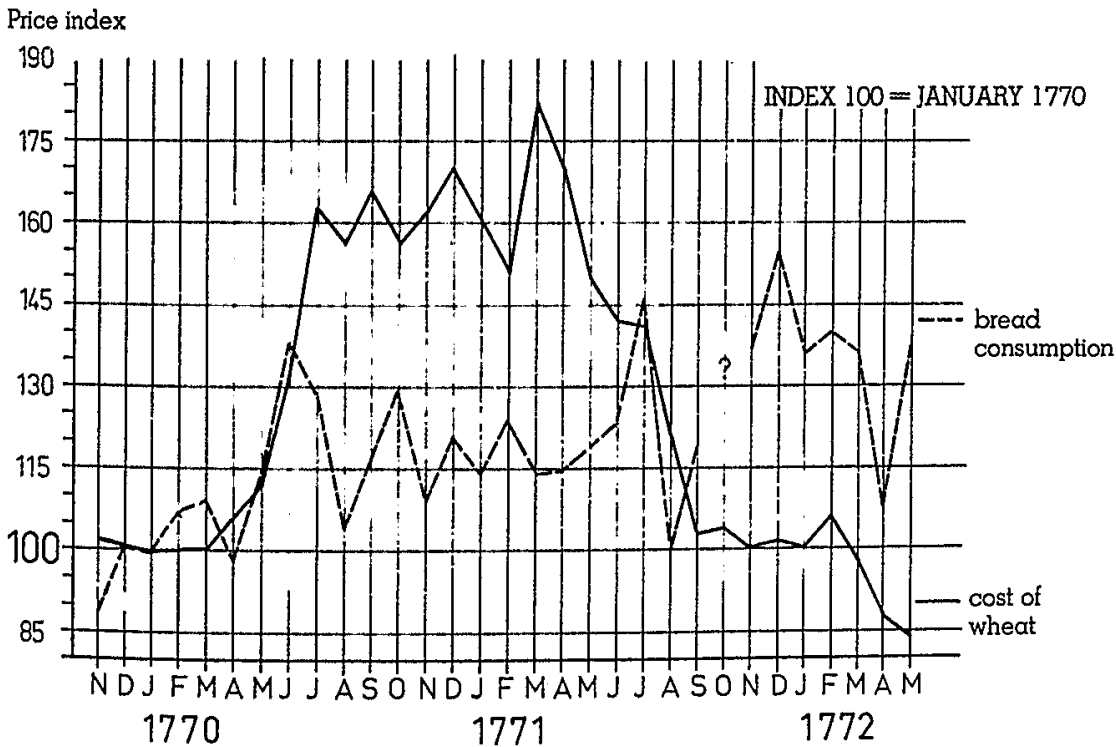


Figure 5.1. Bread Consumption and the Cost of Wheat at Molsheim during the Shortage of 1770 71

of wheat for each month and we also know the corrective factor established by the price control office at Strasbourg, we were able to calculate the monthly cost in sous of a pound of brown bread, and then the number of pounds that a four-sous loaf weighed each month. After that we multiplied this number by the daily ration of loaves and converted the weight in pounds into kilograms. We finally came up with two hypothetical bread rations, one calculated in terms of the price of wheat during that month and a second calculated in terms of the price of wheat during the preceding month. This produced plausible figures, with the second hypothesis seeming the more valid: the daily ration fluctuated within reasonable limits (between roughly 600 and 900 grams). In view of these results, there is reason to wonder whether the term "wheat shortage" is valid here, for even at the time of the greatest price increases, daily bread consumption never fell below 660 grams per person. Indeed, the boarding school at Molsheim was one of those protected milieus in which the word "hunger" did not exist.

Average Daily Rations

In each of the schools for which we have computed rations (see table 5.1), bread was the basic component of the diet. Alone it provided more than half the calories and most of the B and E vitamins, iron, calcium, and phosphorus. Indeed, although during the two final decades of our study of Molsheim the proportion of the total calories obtained from bread decreased slightly, the

Table 5.1—Average Daily Rations

<i>Food Item</i>		<i>Daily Ration (grams)</i>	<i>Calories</i>	<i>Protein (grams)</i>	<i>Fat (grams)</i>	<i>Starch (grams)</i>
Bread and baked goods	A	1,103	2,640	88	13	541
	T	1,033	2,468	83	12	506
	M I	775	1,858	62	10	380
	M II	868	2,087	69	11	427
	P	721	1,723	58	9	353
Wine and brandy	A	60 cl	393	...	...	1
	T	71 cl	459	...	...	1
	M I	88 cl	690	1	...	35
	M II	99 cl	778	1	...	39
	P	27 cl	362	...	...	...
Meat (beef, veal, mutton, pork)	A	221	542	29	41	1
	T	173	498	29	37	...
	M I	295	667	49	48	1
	M II	271	680	44	53	1
Poultry	A	96	208	19	14	...
	T	276	754	51	59	...
	M I	9	14	2	1	...
	M II	14	26	3	2	...
Furred and feathered game	A	4	5	1	...	...
	T	3	3	1	...	...
	M I	6	7	2	...	...
	M II	20	23	5	...	...
Fish	A	18	38	7	1	...
	T	35	47	7	4	...
	M I	39	61	11	2	...
	M II	31	50	9	1	...
Dairy products	A	6	20	1	2	...
	T	24	108	3	10	1
	M I	77	227	4	22	3
	M II	79	256	4	26	3
Eggs	A	75	113	9	9	1
	T	86	140	11	11	1
	M I	40	61	5	5	...
	M II	50	76	6	6	...
Fresh and dried vegetables	A	27	80	5	...	14
	M I	184	233	12	1	44
	M II	268	297	14	1	58
Vegetables and fruits (estimated at 5%)	T	119	244	9	8	27
Fresh and dried fruits	A	59	141	3	7	16
	M I	95	61	...	1	3
	M II	150	102	1	2	6
<i>Epicerie</i> (sugar and jam, rice and salt)	A	21	16	...	...	4
	T	4	15	1	1	4
	M I	10	34	1	...	8
	M II	12	42	...	...	10
Olive and walnut oil	A	30	272	...	30	...
	T	15	138	...	15	...
	M I	10	95	...	10	...
	M II	15	137	...	15	...
Total	A	2,260	4,468	162	117	578
	T	2,478	4,874	195	157	540
	M I	2,420	4,008	149	100	474
	M II	2,768	4,554	156	117	544

A = Auch; T = Toulouse; M I = Molsheim 1767/68 to 1776/77; M II = Molsheim 1777/78 to 1786/87; P = Paris (Military School).

amount of bread on the table increased by one-tenth. Moreover, the account books of the Military School of Paris clearly show that it would be incorrect to try to draw a distinction between a "poor," basically bread-oriented diet for the pupils and a "rich," higher quality diet for the masters. The amount of bread was almost equal for all categories (721 grams per day for pupils, 649 grams for students "in prison," 725 grams for domestic staff, 688 grams for supervisors, and 787 grams for teachers).

On the other hand, it is at the Military School that the difference in the amount of *wine* drunk is most noticeable. While the students on the average drank only a quarter liter (27.3 centiliters),¹¹ servants (with a set ration) drank a half liter (46.6 centiliters), supervisors were allocated 1.291 liters, and teachers drank up to 1.221 liters! Although this wine was probably of low alcoholic content, the quantity drunk was nonetheless considerable.

The amount of *butchered meat* in the diet keeps within the quantities one would expect of the type of boarding schools being studied, but the proportion of beef, veal, and mutton differed quite a bit from one *collège* to another. At Auch, beef predominated, accounting for 96 of the total 221 grams of meat. At Toulouse, mutton came first, with 73 of the total 173 grams. At Molsheim beef and veal initially were almost equal (110 grams of beef and 98 grams of veal out of an average 283 grams), but beef gradually won out over veal and mutton. Pork was chiefly eaten as ham, fatback, sausages, or blood pudding, but it was a minor item, even at Molsheim.¹²

In addition, we must take *seasonal variations* in the diet into account. Veal was eaten chiefly in the spring and mutton in the fall. Although the amount of beef eaten remained quite stable, there was a pronounced decrease during Lent. But Lent was not observed in the same manner everywhere, for although meat virtually disappeared from the menu at Auch (with the exception of a few pounds intended for the sick), the decrease was a relative one at Molsheim and corresponded to Lenten fast days—Wednesday, Friday, Saturday, and Holy Week. At the same time, the number of *eggs* eaten—which was always sizable, with one egg a day at Molsheim and one and a half at Auch and Toulouse—increased sharply. From Ash Wednesday to Easter Sunday, each person at Auch ate between two and three eggs per day.

The difference between the two curves of overall meat consumption at Auch and Molsheim (fig. 5.2) is in a large part compensated for by the consumption of *poultry*, which was considerable at Auch and even more so at Toulouse, where it was twenty-five times greater than the ration calculated for Molsheim. Turkey with chestnut stuffing seems to have been a common menu in the Armagnac region [of Auch, a region of chestnut forests] during the fall and winter months. On the other hand, at Molsheim one is struck by the sudden, fourfold increase from one decade to the next in the amount of *game* eaten. Does this mean a modification in the diet? In general, expensive items or foods considered luxury items were purchased in increasing quantities, while traditional commodities such as veal or mutton or inexpensive ones such as fish became less and less frequent in the account books.

Very little *fish* was eaten, and most of it during Lent at that. Air-dried cod

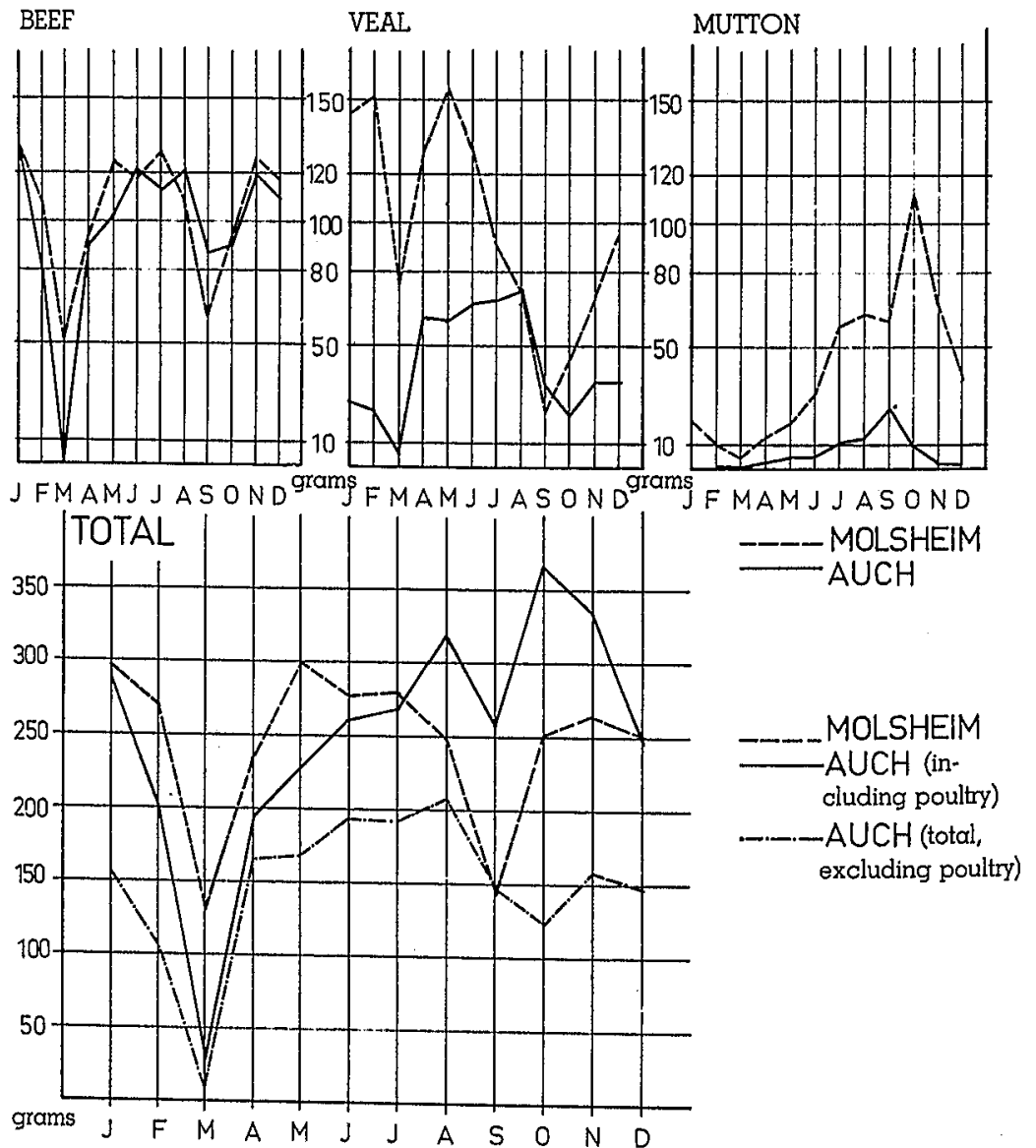


Figure 5.2. Average Daily Consumption of Meat, by Month, in the *Collèges* of Auch and Molsheim

(*stockfish*) or salt cod, and the vague category “white fish” accounted for most fish purchased in all the schools we studied. Molsheim was, however, an exception, for the diet included 4.6 grams of frogs’ legs per day. Considering the volume that represents, they must have appeared on the menu relatively often!

One of the basic differences between the diets at Molsheim and Auch is the very small role played by *dairy products*, which are rich in vitamin A and calcium. The same disparity can be noted for the amount of oil consumed, this time to the advantage of Auch. Have we grounds to view this as indicative of two types of cooking, cooking done with butter and cooking done with oil? In eighteenth-century Alsace, butter-based cooking was thought to be reserved for the rich.¹³

Since *fruits and vegetables* generally came from the schools’ own gardens, the account books usually refer to a total volume of fictitious “purchases,” without

specifying the exact amounts of the foods they list. Only in the case of Auch are they recorded daily, with a degree of precision that enables us to calculate the amount eaten. Now, even under these circumstances, the amount of fruits and vegetables seems very low and, in addition, is subject to the obvious seasonal fluctuations that threaten the well-balanced diet, especially during winter months. Yet, we can draw three conclusions. First of all, the ration shows that the menus of *collèges* were very *regional*: an abundance of cabbage for sauerkraut at Molsheim (60 grams per day), and of white beans (17 grams) for *cassoulet* [a regional baked-bean dish] and chestnuts (20 grams) for the turkeys at Auch. Second, a pronounced increase in the use of the *potato* is evident at Molsheim; its consumption doubled from one decade to the next (from 89 to 158 grams per day),¹⁴ while the potato did not put in an appearance at Auch until the early nineteenth century. The same is true for *apples*; consumption increased from 91 to 142 grams at Molsheim—that is, an apple a day—and included chiefly those varieties that were rich in vitamin C (calvilles and pippins). These two foods show that important steps were being taken toward a well-balanced diet.

But we must point out a few *missing foods*: beer, even at Molsheim [Alsace is a beer-drinking province]; coffee (less than 1.5 kilograms per year for the entire *collège* of Auch) and tea; chocolate, which apparently was never served; honey; and lemons and oranges, which doubtlessly were still too costly and too exotic for everyday use, for at Auch the ration was less than one per year per student, while at Molsheim they were served only to the sick, as medicine.

Overall Nutritional Content

First we wish to point out that these overall figures are estimates of the ration *supplied*. We know nothing about any possible resale by the bursar between the time the purchase was recorded and the time it could be eaten; and we know nothing about how much food was left over or what was done with it. One thing is sure: most of the food eaten by the servants at Molsheim consisted of leftovers from the tables of the boarders, which justifies—if justification is needed—their inclusion in our calculations. Doubtlessly we will never know the difference between the amount of food available and the amount actually eaten. Moreover, we must be cautious when analyzing the caloric needs and the vitamins and minerals required by children and adolescents. Recent research by the Food and Agricultural Organization concluded that the norms accepted by modern dietitians are far in excess of minimum requirements.¹⁵ The “deficiencies” we have found often are merely poorly balanced diets, and most of these imbalances are minor.

Even in the absence of sure and complete data about the amount of fruits and vegetables eaten, the *caloric intake* (table 5.2) seems more than adequate, if not abundant, in each of the three cases we studied. All schools exceeded the figure of 3,800 calories desirable for the proper growth of boys between the ages of twelve and eighteen. The same is true for *protein* and *fat* (table 5.3).

Table 5.2—Sources of Calories

Food Item	School			Years	
	Auch	Toulouse	Molsheim Average	1767/68 to 1776/77	1777/78 to 1786/87
Cereals	59.2%	50.7%	46.5%	46.9%	46.2%
Meat, poultry, game	16.9	25.7	16.6	17.2	16.0
Fish	0.9	1.0	1.3	1.5	1.1
Eggs	2.5	2.8	1.6	1.5	1.7
Dairy products	0.5	2.2	5.6	5.7	5.6
Fruits, vegetables	4.9	(estimated at 5.0)	8.1	7.3	8.8
Oil	6.1	2.9	2.7	2.4	3.0
Sugar and jam	0.2	0.3	0.4	0.3	0.5
Wine	8.8	9.4	17.2	17.2	17.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Total available calories	4,468	4,874	4,285	4,008	4,554

Incidentally, the latter increased markedly at Molsheim over the twenty-year period. The substantial amount of bread in the daily diet did, however, lead to a certain imbalance between animal and vegetable protein, and this imbalance surely was increased by the fruits and vegetables omitted from the account books. It is likewise impossible to calculate precisely the nutrition obtained from variety meats, which often are mentioned only infrequently in the accounts. Hence, there is an appreciable margin of error as far as the total amount of phospholipids is concerned. Thanks to a more than abundant supply of poultry, the *collège* at Toulouse came close to the ideal ratio between animal protein and vegetable protein. The amount of carbohydrates in the diet was roughly average, but in no case did it exceed the maximum suggested amount.

In the rations we calculated, most *vitamins* were quite well, if not abundantly represented (see table 5.4), especially vitamins E and PP, owing to the great amount of bread and olive oil in the diet. The amounts of vitamin B₁ and vitamin B₂ seem almost excessive, again owing to the superabundance of grains. Nowhere was vitamin A lacking, but at Auch it seems to have been touch-and-go, especially during periods when egg consumption dropped. This near deficiency resulted from the virtually total absence of dairy products. The deficiencies in provitamin A (carotene) revealed by our calculations may have been compensated for by fruits and vegetables; but in the case of Auch, for which we have the most complete data, the suspected deficiency remains plausible. This fact is especially significant, since vitamin A plays an important role in growth. A similar deficiency is suspected for vitamin B₆, which is of comparable importance. On the other hand, vitamin D, which prevents rickets, was more than adequate in each case.

The case of vitamin C is complicated. It seems to have been adequately, although not excessively, represented in the diet at Molsheim: 56 milligrams, or even 68 milligrams if, as the records suggest, the main varieties of apples were

Table 5.3—Chemical Composition of Rations

<i>School</i>	<i>Protein (%)</i>	<i>Fat (%)</i>	<i>Starch (%)</i>	<i>Ratio of Animal Protein/ Vegetable Protein</i>	<i>Ratio of Protein/ Starch</i>
Auch	18.9	13.7	67.4	0.66	0.28
Toulouse	21.8	17.7	60.5	1.16	0.36
Molsheim Average	19.8	14.1	66.1	0.89	0.30
1767/68 to 1776/77	20.6	13.8	65.6	0.95	0.31
1777/78 to 1786/87	19.1	14.3	66.6	0.83	0.29
Theoretical needs*	13.7	10.5	75.8	1.00	0.18

*Computed on the basis of Lucie Randoin et al., *Tables de composition des aliments* (Paris, n.d.), pp. 12-13, for boys between the ages of twelve and fifteen.

Table 5.4—Vitamins and Minerals in the Average Daily Ration (in milligrams)

<i>School</i>	<i>Vitamins</i>							
	<i>A</i>	<i>B₁</i>	<i>B₂</i>	<i>B₆</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>PP</i>
Auch	0.34	4.15	3.02	0.66	19.0	0.0045	22.8	44.8
Toulouse	0.62	3.97	3.01	1.00	8.5	0.0146	18.5	62.2
Molsheim	0.43	3.73	2.93	1.19	58.3	0.0062	16.5	46.2
Theoretical needs*	0.25	1.60	2.00	1.00	80.0	0.0030	2.0	16.0

<i>School</i>	<i>Minerals</i>					<i>Ca/P Ratio</i>
	<i>Carotene</i>	<i>Iron</i>	<i>Calcium</i>	<i>Phosphorus</i>		
Auch	0.62	34.6	723	3,173	0.23	
Toulouse	0.56	38.5	766	3,388	0.23	
Molsheim	0.55	33.7	714	2,919	0.24	
Theoretical needs*	2.50	20.0	1,400	1,500	0.90	

*Required by growing boys, according to Dr. Jean Lederer, *Encyclopédie moderne de l'hygiène alimentaire* (Louvain, Paris, 1971), 1: 57-77; and Lucie Randoin et al., *Tables de composition des aliments* (Paris, n.d.), pp. 12-13.

calvilles and pippins. It is impossible to draw a conclusion for Toulouse, since the account books give no details about the purchase of these items. But fruits and vegetables did make up 6.7 percent of all expenditures for food—the same percentage found at Molsheim—and more than half of that sum was spent on fruit. But the diet at Toulouse probably was very similar to that at Auch, which consisted of an abundance of dried fruits and vegetables (peas, beans, lentils, chestnuts, and walnuts), all low in vitamin C. At Auch, at any rate, the amount of vitamin C barely exceeded the minimum required to avoid borderline deficiencies,

especially during the winter months. Still, garlic and onions, which seem to have occupied a rather important place in the diet, may have been able to palliate the most glaring deficiencies.

The minimum requirement of *calcium* during growth (600-700 milligrams) was met in every case, but there is a relative deficiency of calcium compared with *phosphorus*, which was overabundant. This led to a serious imbalance in the proper ratio between these two minerals. The abundant amount of bread and meat, and the small amount of dairy products, was a chief cause. Let us, however, stress that the Food and Agricultural Organization recently has called into question the validity of the calcium/phosphorus balance as a test for illnesses resulting from vitamin deficiency.¹⁶

Conclusion

On the whole, the three school diets that we studied show both a more than adequate caloric intake and a rather satisfactory balance in nutritive content. The diet at Molsheim incontestably was closest to the recommended norms and was the most well balanced, with no major excesses. Moreover, the diet clearly tended to improve from one decade to the next. The increased caloric intake went hand in hand with certain changes in the ratios between the various foods and between the nutritive components of the foods served. And, slight as they may be, these changes indicate a modernization of the diet: a decrease in the amount of bread and fish and an increased consumption of sugar, oil, fruit, and, above all, potatoes. By the end of the eighteenth century the diet at Molsheim incorporated all the trends that gradually would form the diet of the rich, industrialized countries: an increase in unsaturated fats (at Molsheim the consumption of vegetable oil increased by 44.3 percent in ten years) and of saturated animal fat, at the expense of saturated vegetable fat. The arrival of the potato replaced the starch quota that had been threatened by the reduced consumption of bread; and, although the amount of sugar eaten remained low, it rose sharply, increasing 84.5 percent in ten years. Last—and this may be the best indication of an improved understanding of physical needs—for the first time the diet included abundant vitamin C, thanks to the apple-a-day, which more than satisfied the requirements for that vitamin.

To summarize, although bread remained the basic food in each of the three diets, the food served in these schools was that of the privileged classes and, with few exceptions, always remained above the level of borderline deficiency. The large amount of meat (over 300 grams per day in all the schools) prefigured, within a small social milieu, the most recent of the great dietary revolutions, although this revolution would not occur in the population at large for another century: that is, the shift from a preponderance of wheat to a preponderance of animal protein.

NOTES

1. Charles Sorel, *La Vraye Histoire comique de Francion* (1622), reprinted in *Romanciers du XVII^e siècle*, Bibliothèque de La Pléiade (Paris, 1958), p. 171.
2. V.-M. Vienot, comte de Vaublanc, *Souvenirs* (Paris, 1838), 1: 85.
3. Archives départementales [hereafter cited as A.D.], Calvados, C 2473.
4. A.D., Gers, D 117-25 (*recettes et dépenses*, that is, receipts and disbursements), and 152-66 (*factures*, that is, invoices).
5. A.D., Haute-Garonne, 7 D 44; Louis J. Lekai, ed., "The College of Saint Bernard in Toulouse, 1553-1791," *Analecta Cisterciensia* 27 (1971): 157-211.
6. A.D., Bas-Rhin, D 160-69.
7. We are preparing a study of the students admitted to the major boarding schools (Juilly, Pontlevoy, Tournon, Effiat, Molsheim, and so forth).
8. Archives communales [hereafter referred to as A.C.], Strasbourg, AA 2158, pieces 3 and 6; cf. A. C., Haguenau, GG 25-26; and A.D., Bas-Rhin, C 343.
9. But only 44.6 percent at Toulouse, of a total of 4,996 *livres tournois*. The general budget for Molsheim fluctuated between 8,000 and 14,000 *livres tournois*. In neither of these two cases did total wages exceed five percent of all expenditures.
10. Cf. Abbé Auguste-Charles Hanauer, *Etudes économiques sur l'Alsace ancienne et moderne* (Paris, Strasbourg, 1878), 2: 133-37; Y. Le Moigne, "Population et subsistance à Strasbourg au XVIII^e siècle," in *Contributions à l'histoire démographique de la Révolution française* (Paris: Bibliothèque nationale, 1962), pp. 13-44 (Mémoires et documents, XV).
11. But with marked seasonal variations: from 43 centiliters in January to 74 centiliters during the heat of August.
12. At the most 30 grams. Given the difficulty of calculating the weight of a given number of sausages, we consistently used the minima hypothesis: low weight, great waste, and high price. In reality, the ration certainly should be increased.
13. Cf. Jean-Jacques Hémardinquer, "Les Graisses de cuisine," in *Pour une histoire de l'alimentation* (Paris: Armand Colin, 1970), p. 263.
14. The spread of the potato in Alsace, which brought an end to periodic scarcity, is an important event in the second half of the eighteenth century. Cf. Etienne Juillard, *La Vie rurale dans la plaine de Basse-Alsace* (Paris: Les Belles Lettres, 1953), pp. 213-15.
15. Our calculations are based upon Lucie Randoïn et al., *Tables de composition des aliments*, 3d ed. (Paris, n. d.).
16. Cf. *Besoins en calcium*, a report by a group of specialists presented to the Food and Agricultural Organization/World Health Organization, 23-30 May 1961 (Rome: United Nations Food and Agricultural Organization, 1962), p. 16.