

## SCHOOL-DENTISTRY IN AMSTERDAM IN 1925 WITH STATISTICS

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by

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In 1925 School-dentistry was started in Amsterdam (Holland). In previous years, school-dental-clinics had been visited in Boston (Mass.), Rochester (N. Y.), Bridgeport (Conn.), Stockholm (Sweden), Bonn (Germany) and a few others places.

When we visited Bonn, Prof. Kantorowicz's system had been tried for six years. At our request we were allowed to inspect the mouths of all the children in the forms we selected; in total about 400 children were examined. Our choice fell especially on the highest forms, in which were children of 12 to 13 years of age. These forms had been under the care of a school-dentist during the last six years. The school-dentist, Mrs. Schenck, very kindly assisted us at our inspection. This inspection proved to us, that in Bonn school-dentistry is a great success. For 92-96 % of the children possessed a sound denture. The majority had nothing but small fiblings in the fissures of the first permanent molars. We did not find any caries on the approximal surfaces, though we examined every tooth carefully with mouthmirrors and sharp probes.

The success of the school-dentistry in Bonn surpassed indeed to such an extent everything we had seen elsewhere, that the question arose, whether this success had to be ascribed to the system of school dentistry, only, or that there were other favouring conditions. We considered the possibility that in this district the teeth might be of a better construction. But the inspection of another form with older children

**I SOCIAL PART (A).****ORIGINAL CONTRIBUTIONS.**

who had not been under the care of the school-dentist, showed us that the teeth of these children were equally bad as in every civilized country to-day. In the neighbourhood we visited another town where an other system of school-dentistry had been tried for ten years. There was a great difference in results as compared with Bonn. In these schools we found many children whose permanent teeth were in very bad condition. What was the cause? The subscription-system is applied i.e. the children are entitled to the service of the school-dentist during one year if the parents pay a subscription of one Mark. In general the parents do not pay this money until the child complains of tooth-ache. A great difference with Bonn, where tooth-ache is systematically prevented; whereas here the school-dentist continually has to treat children who suffer from tooth-ache. Here it is the pride of the school-dentist that he makes such a great number of root-canal-treatments. In Bonn it is the pride of the school-dentist that there is no need of root-canal-treatments. Root-canal-treatment, and on the whole the treatment of badly decayed permanent teeth takes so much of the time of the dentist, that he has not much time for prophylactic work. In a number of cases the teeth treated were so weakened that it became doubtful whether they would be preserved for a greater number of years. In many cases the treatment of the teeth was not finished. If after a few visits to the dentist the pain was over the child did not come back; the dentist was so occupied with patients that he thought if a relief if a child did not keep the appointment. Even when a mouth had been brought in a sound condition, so that the child had no complaints, the parents considered that they could save their Mark. In this way the continuous care of the teeth was prevented.

Prof. Kantorowicz's system is cheaper, for one dentist can have under his care a much greater number of children, viz. 6000 of 7000 children, (because the dentist has to make only small fillings, and tooth-ache in the permanents is prevented), and the result is, that about 95 % of the children leave school with a sound denture.

The subscription-system on the contrary is to be considered as a failure.

In one respect the system of Prof. Kantorowicz was incomplete: the home-care of the mouth of the children was insufficient.

At our visit in Bridgeport (Conn.) we were greatly impressed by Dr. Fones' system. He used all his efforts in cultivating the habit of

**SCHOOL DENTISTRY IN AMSTERDAM IN 1925.**

home care of the children's mouth, and to give the teeth prophylactic polishings at regular intervals. In order to carry out his system successfully he had trained a number of dental-hygienists. Their duty was to polish the teeth of the children and to detect every small cavity, and to teach the children how and when to brush their teeth.

After having investigated different systems of school-dentistry in several countries, we advised to introduce in Amsterdam a combination of Prof. Kantorowicz's and Dr. Fones' systems. The aim of this system is that the children will leave school with a set of sound teeth and are accustomed to regular home-care of the mouth.

As has been established innumerable times nearly all children have decayed teeth. At the moment the children enter the school their temporary teeth are in a great many cases so badly decayed, that it is impossible to repair all these teeth completely. At the time the children leave their permanent teeth are also for a great part so ruined by caries that it is impossible to repair them completely.

As every badly decayed tooth has started with a very small cavity, school-dentistry should be organised in such a way that every permanent tooth is inspected shortly after its eruption, so that small cavities can be filled immediately and that the inspection is repeated at least twice a year. If this is carried out carefully there will be no difficult treatments and no badly decayed teeth.

In order to make this plan possible it is necessary that the school-dentist takes under his care *during the first year* only the children of the lowest grade (children of 6 years of age). When the teeth of these children during their school-years are inspected twice a year and every beginning cavity is filled immediately, all large cavities are prevented in the most simple way. Every year the number of children who are under the care of the school-dentist is enlarged with the children who enter the school. After six years all the school-children are under the care of the school-dentist and the school children will suffer no longer from pain in their permanent teeth. In Bonn this system has now been tried for six years and we have seen that the success is complete. The temporary teeth are treated only in so far this is necessary to avoid the danger of caries on the approximal surfaces of the permanent teeth. Without doubt it would be better for the children if the temporary teeth could be treated as well. In order to do this effectually it would be necessary to begin at the age of two. However it is impossible to get the children at this early age. In Am-

**I SOCIAL PART (A).****ORIGINAL CONTRIBUTIONS.**

Amsterdam baby-care is organised very well now and it is to be expected that this service will have a beneficial influence on prevention of caries in the temporary teeth and on the structure of the permanent teeth.

Since a few years e.g. precocious born children and children suffering from rickets are treated with ultra-violet rays. That the prophylactic treatment with ultra-violet rays is better than the therapeutic treatment is shown in the case of a precocious born twin. One of these children was treated prophylactically short after birth. The other child was treated therapeutically after there were symptoms of rickets. We examined the teeth of these children when they were  $3\frac{1}{2}$  years old. The child which had been treated prophylactically with ultra-violet rays had a sound denture; the other child had seven cavities in its teeth.

Also the building of better lodgings and the progress of general hygiene which are strongly promoted in Amsterdam, will have a favorable influence on the teeth of the population.

In 1925 a new department of the Municipal-Medical Service was opened in the northern part of Amsterdam. In the new building there are also rooms for a school medical officer and for a school dentist.

School-dentistry in Amsterdam was started with the children of the schools in the neighbourhood of this new building. On May the 18th '25 the children of the lowest form of one of these schools visited the school dentist for the first time. The parents had been informed few days before that their children would be examined by the school medical officer and the school dentist, and they had been requested to bring at the same time the child's tooth-brush.

Most children were brought by their mothers. After having been examined by the school medical officer, the children were sent to the school dentist. The school dentist was assisted by two dental hygienists.

On the example of Dr. Fones (Bridgeport), dental hygienist had been trained at the Municipal Dental Clinic in Amsterdam during the last five years.

One of these dental hygienists taught the children *in the presence of their mothers* how to brush their teeth. They used small tooth brushes which were compared with the brushes the children had brought, in order to show how the brush should be. After the brushing was finished, the child went to the dentist. He examined the teeth and paid special attention to the first permanent molars (erupting at about six years of age). If one of these molars showed to be defect or if a cavity in one of the temporary teeth was dangerous for permanent

## SCHOOL DENTISTRY IN AMSTERDAM IN NOVEMBER '25.

Table 1.

Name of the school	The children entered the school	Examination	Total number of children	Number of the fillings made		The children entered the school	Examination	Total number of children	Number of the fillings made	
				Total	Average				Total	Average
A. Taelman .	Sept. '24	Mai/	38	53	1,39	Sept. '25	Oct./	31	14	0,45
Ad. Bankert.		July '25	33	38	1,15		Nov. '25	35	34	0,97
Conrad . . . .			36	38	1,05			34	6	0,17
Bontemantel.			29	37	1,28			38	14	0,36
Krayenhoff .			33	41	1,24			31	10	0,32
Leeghwater .			30	32	1,06			29	23	0,79
Parel . . . . .			27	36	1,33			32	28	0,87
Tj. Hiddes . .			27	31	1,14			33	20	0,60
W. v. d. Laan			32	34	1,06			30	11	0,36
A. v. Diemen			33	59	1,78			37	11	0,29
Bali . . . . .			33	66	2,—			39	35	0,89
Borneo . . . .			31	61	1,96			36	13	0,36
Batjan . . . .			27	45	1,66			36	20	0,55
Banka . . . . .			36	59	1,63			35	12	0,34
Java . . . . .			38	68	1,78			35	35	1,—
J. M. Suyker			37	64	1,72			34	25	0,73
J. P. Coen . .			34	75	2,20			35	27	0,84
Pr. Maurits . .			26	33	1,26			32	15	0,41
R. v. Groen			33	69	2,09			36	31	0,77
P. Both . . . .			26	47	1,80			40	13	0,39
Von Zesen . .			27	43	1,59			33		
			666	1029	1,55			686	397	0,58
Abr. v. Zijl . .	Febr. '25	Mai/	34	20	0,58					
Almonde . . . .		June '25	37	36	0,97					
Blanken . . . .			33	25	0,75					
Cruquius . . . .			31	25	0,80					
W. Scheepens			36	47	1,30					
Ambon . . . . .			19	25	1,31					
Molukken . . .			32	38	1,18					
Madura . . . .			29	34	1,17					
P. Vlaming . .			25	32	1,24					
			276	282	1,—					

**I SOCIAL PART.****ORIGINAL CONTRIBUTIONS.**

tooth, it was explained to the mother that for the preservation of the permanent teeth if was necessary to repair this defect. In most cases the cavities to be filled were congenital defects in the fissures of the first permanent molars.

A form was signed by which the mother consented that her child in future would come under the regular care of the school dentist.

The first grade of 30 schools was treated successively in the same way.

The children who entered the schools in September '25 have been examined in the same way. About the middle of November '25, 50 forms had been examined and treated.

The following tables contain a review of the work.

In November '25 the second examination began of the children who had been examined in Mai 25 for the first time. This was not yet finished on December the 31st '25.

The school dentist and the dental hygienists do their work during school-hours, but only in the morning.

This school-dentistry will be extended over the whole town in the future. New buildings for the Municipal Medical Service, with rooms for the school medical officer and the school dentist are now established in two other sections of Amsterdam.

Table 2.

Total number of children	Of these					are still under treatment
	the parents did not consent	did not come	were refractory	have now sound permanent teeth (including the filled teeth)		
				Number	%	
1628	43	71	14	1501	92,2	13

## SCHOOL DENTISTRY IN AMSTERDAM IN 1925.

Table 3.

Number of			
Fillings		Extractions	
In the permanent teeth	In the temporary teeth	of permanent teeth	of temporary teeth
1740	43	0	8

Table 4.

Number of children	Parents who did consent		Sound (permanent) teeth have		Number of children Treated		Number fillings		of extractions		Number of work-days (4 hours a day)
	Number	%	Number	%	Number	%	Perm.	Temp.	Perm.	Temp.	
1628	1585	97,4	1501	92,2	586	36	1740	43	0	8	109