DENTAL DISEASES IN GREECE

A Preliminary Report of a Survey Concerning
Oral and Dental Hygienic Conditions in Greece.

By:

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Introduction:

Within the period of the last four years or so, I have been connected with the Scientific Research Commission of the F. D. I. as its representotive for Greece, to assist noble effort of solving the Root Canal Problem.

From the little I have contributed towards this cause, I am sorry to say, and perhaps more from what I have heard and learned from others, I have come to the conclusion that the solution of this problem is far distant; and that while all moral and material support should be given to laboratory men, still as much may be accomplished towards its ultimate solution by prevention, i. e. by minimizing the number of pulpless teeth.

The above, and a long-standing desire to study the effects of climatic and dietary conditions upon the hard and soft tissues of the mouth in this country, induced me to start on this investigation last August.

The search was to be carried out in various parts of the country: but not very long after that-October 1930-I was informed by the Red Cross Commission of the F. D. I. at Geneva that the Hygienic Commission of the League of Nations, the Red Cross, and the Hygienic Commission of the F. D. I. had effected a cooperation at Brussels under the auspices of the League of Nations with the object of bringing about better future conditions of Oral and Dental hygiene amongst the peoples of the world, ond that my name was proposed as a delegate for Greece.

Deliberating upon probable future events of my new obligations, I thought it would be admissible to abandon the original idea of visiting the entire country for my information, and I confined my work to Athens and the vicinity, in order to hasten my observations so as to be prepared, and to present part of my findings, whether good or bad, before the sitting of the next Congress at Paris, where presumably definite resolutions would be taken with regard to the new worldwide propaganda.

The objective points of this study, as they were modified with the new obligations as a future delegate of the Oral Hygiene Commission of the F. D. I. to Greece, were as follows:

1. To get an accurate knowledge of existing conditions on dental diseases and dental services, in order to arouse public interest, and start a movement along preventive lines:
2. To inform the Commissions of the findings: and,
3. To satisfy a few personal curiosities on scientific points, namely:

   a) Decay: its effects on social classes, rural and city life, races and sexes. and the causes of the same.

b) Gingival troubles, with special reference to pyorrhea and its causes; and,

c) Other points of interest that would perhaps develop during the progress of the investigation:

d) Also in no less degree, the influence of diseased teeth on the general health.

To do justice to all the points mentioned above, a variety of individuals grouped under different environmental conditions had to be found, in order to make the comparative studies. This is not so easy in Greece where cooperative methods are as yet rather undeveloped. I have to acknowledge, however, that I found many with advanced ideas, and with their aid I succeeded in getting the desired cases for investigation.

Ethnologically, all of those examined, excepting the Armenian children, are Greeks. The younger ages were those born in Greece of native or refugee parentage. Some of the older ages, however, of children, Army boys, and adults-162 in all-came from other countries, amongst which Turkey comes first, with 129; Russia, with 9; Roumania, with 5; the United States, 4; Egypt, 3; and other countries, 9.

The examinations ware made in the respective places, as seen in Table No. I. All that was necessary were 10-15 sets of instruments, a sterilizing outfit, a few napkins, and whatever accommodation we could get at the places, generally a table and a couple of chairs. A little present to children, consisting of a fancy pencil or a copy-book, brought excellent results as to the willingness of the youngsters to open their mouths and wait patiently during their examinations.

The findings are recorded on individual examination cards, to which reference can be made on any of the subjects I have already mentioned.

A brief explanation of climatic, dietary, and living conditions perhaps will be of interest to other investigators who want to make comparisons with other parts of the world.

In the department of Attica, and especially round Athens, we register 7 hours and 30 minutes of sunshine per day for the year. The water in this vicinity is hard. In the line of foods, all vegetables, fruits, and even milk are fresh; canned goods, especially with the lower classes, are considered as a luxury. Bread constitutes the main article of diet of the working and poorer classes, and the consumption per head is from 2-3 times more than that of the Anglo-Saxon race.

The housing conditions are not what we can call ideal, but better than those in the east side of New York. in the east end of London, and in the slums ot other big cities, inasmuch as there the dwellings are small, and there is unlimited sunshine and fresh air at the doors if not in the house.

I have no description of the conditions from other places with which to make a comparison, but from what we know, apart from the high consumption of soft bread amongst the upper and middle classes, other conditions are rather favourable for the calcification and maintenance of the hard tissues of the mouth.

As to the classification of the dental diseasses: the desire of obtaining an accurate knowledge of oral and dental diseases, and to render this knowledge accessible

to the public understanding, necessitated a deviation from the prevailing classification ot dental caries; and, in omitting the first degree, which includes many questionable points I proceeded as follows:

1. Decay without pulp involvement: where the explorer penetrates the carious enamel without any extra pressure; but the tooth can receive the filling or fillings without the pulp being affected. (Discoloration is not taken as a criterion that the tooth is diseased under the above heading).
2. Decay, with pulp involvement: where the depth of the cavity and discoloration or destruction of tooth structure would indicate that no filling can be inserted without affecting the pulp.
3. Broken down teeth: A tooth upon which no filling, inlay or a crown can be attempted without retentive process in the root canal or canals. Under this head are also included all unextracted roots.
4. Missing: Under this head are also classified the teeth that are extracted unerupted, or in any way missing after their due time of eruption.

Teeth with dental service are classified as follows:

1. Teeth with a filling or inlay, in either No. 1 or 2.
2. Teeth with a crown are always classified under No. 2.
3. Teeth with Richmonds are always classified under No. 3.

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Group investigation and findings accompanied with statistical data.

In statistics more often than not, equivocal arguments arise. These I leave to men of research, to the educator, the social worker, the philanthropist, and the sufferers, to work out as they desire after associating them with their past experiences. Personally, to numbers, I prefer to accord a supplementary significance to the impressions made on my mind by actual facts during the process of the investigations.

The Groups 1 and 5 in Table I., three public schools, one private and one Armenian school, represent children of poor families, and perhaps a few of moderate means.

Two other Groups, 6 and 7, represent children of orphanages: and Groups 8 and 9, boys and girls representing the wealthy classes in Greece.

Group 10, represents, soldiers from all parts of the country: and Group 11, industrial labourers of poor or limited means.

Group 12 represents a small number of men and women of the wealthy class, as they came to the Clinic during the months of February and March of this year, selected of the same age for comparison with the labourers.

In comparing the findings of these Groups, we find that the well-to-do classes are more susceptible to dental decay than the poor. This is especially noticed by the percentages of decay free and average of diseased teeth per child of Group No 3 representing children of poor families, and Group No 9, which represents the wealthy. Those percentages and everages as shown in Columns II and 13; In Table I, are as follows:

Children of poor families found to be 14 % decay free and with an everage of 3. diseased teeth per child, while the wealthy children show only 6 % decay free, and an everage of 5. 8, diseased teeth per child.

*To be presented before the section of the «Oral Hygiene Public Dental Service» of the VIII International Dental Congress. Paris, August 1931.

This is also substantiated by the averages of Groups 11 and 12, where we come again in contact with the poor and the wealthy, the average being 11.8 for the poor, and 17.2 for the wealthy class.

And, if with the above we take into consideration the percentages and everages, of the total of the age 13, in which this group is also included, which is 7.6 %, of decay free and 4.1, of diseased teeth per child, we find that the susceptibility to dental decay here amongst the wealthy classes is about 50-55 % higher than in the poor classes.

There is not any appreciable difference in dental decay amongst children of rural and city life. This can be seen if we compare percentages and averages of Columns 11 and 13, of the childrcn of Group No 2. Rural, with Groups 1 and 3, which represent children from the city. The same can be said also of racial differences of the two races that we are able to compare here. There is in Group No 5, a lower percentage of decay free children of the Armenians, the same being 10 % instead of an average of about 14 % that we find in the children of Groups 1, 2, 3 and 4. For this, however, some deductions must be made for the Armenian children as having been in a very different situation from the point of view of nutrition as compared with the Greek children.

Striking, however, and rather disappointing are the results of Group 10, which is represented by the Army boys. These boys, 160 in number, coming from all parts of the country give an appreximate idea as to the dental hygieme of the whole nation. The percentage of decay free in that Group is 2. 5, and the average of diseased teeth per boy 7. 6; and these findings we can safely say re present the basis for the whole country fer that age, so far as Greece is concerned.

Further light on this point is giver by the orphans who come from various parts ot the country, and who being affected more than the city children, see Groups 6 and 7, proves the fact that the provincial population is not in a better contition, as far as dental diseases are concerned, than the city people.

As a whole, we can be convinced from this study that dental diseases is a widespread malady, affecting 85 % of the people, as seen in Group 1. Column 11, at the age of nine; and reaches 100 % at the age of 41-42, as seen in Group 12, in the same Column. Furthermore, this study brings us in touch with the amount of the loss of tooth structure, and the suffering that is going on. Omitting Group No 12. i. e.

29 persons of the Clinic who have been examined for class comparison only, we find that by subtracting 98 persons that are decay free, we have 972 affected with the large number of 5216 however affected teeth. Before I leave this theme I would like to signal the amount of dental service that was expended on these teeth. They are as follows:

Fillings (Amalgam, or synthetic)	211
Crowns	93
Dummies (constituting 25 bridges)	52
Richmonds	2
Partial upper plate, 1; with 8 teeth. One full upper and lower 28 teeth	63
	394

The treatment of the above dental service was found on 123 persons, the same being about 12 % of the total, and the teeth, as we see above, upon which an attempt was made to repair, reconstruct, or replace, shows a total of 394, being only about 7 % of those in need of treatment.

Of spesial interest in this particular case of dental service is the fact that the public school children of Athens, to say nothing of the provinces, are without any attendance whatsoever. The three public schools represeted in the Group study, represent 339 children with 993 however diseased teeth, ready at that time to be taken care of; and from that numper we find only four children with ten fillings, which means that just about 1 % of the children who required dental service, and of the teeth that needed treatment.

Analytical Classification of the Molar Teeth.

One point of this problem that deserves great attention is the fact that dentat decay attacks the molar teeth more than others, teeth which are very difficult to handle at a very young age, and inpossible to be properly treated in later years on account of their anatomical shape. These teeth in early ages constitute nearly the whole of the diseased teeth, and impair mastication, a function of great importance for the maintenance of health, and even life.

Table II, Column 7, shows that at the age of 8 the diseased molars constitute 97 % of all diseased teeth, and this percentage is always higher up to 41 years of age, when we see that nearly all the molars are affected.

A careful study as to the healthy and diseased conditions of first and second molars, as presented in Columns 15 - 18 of the same Table, reveals that more than 50 % of the molar teeth become diseased after the third year of their eruption: this percentage, stimulated by the eruption of the second molar, keeps a pace with small fluctuations between healthy and diseased, from 8 years of age up to the age of 15, when the percentage of the diseased teeth increases continuously. As showg in diagram I.

As great as may be the susceptibility to decay of the molars, in comparison with the other teeth, there is still greater susceptibility between the second and first molars. I do not know if this point has attracted the attention of any other investigator, or if conditions in dental decay are the same elsewhere to make this noticeable. However, in the absence of anything I know on this subject, I take the liberty to make this known under the term. «Abnormal susceptibility of particular teeth to dental decay».

A light is thrown on the subject if we consult the figures of the age of 21, Columns 9 - 12, where in placing the broken down and missing in their respective columns 11 and 12, we find the figures to show:

Healthy	1st,	277	43%
Healthy	2nd,	206	32%
Diseased	1st,	362	56%
Diseased	2nd,	435	67%

This proves that somewhere around the age of 19 - 20 or 8 years after its eruption, as shown in diagram II, the second molar becomes more diseased than the first molar, which is expesed to wear twice that length of time. Conditions, as we see at the age of 41, again reverseto normal; but the span of time between these two ages (21 to 41), is too long, and we have not the essential material at hand to follow that point at present.

From the material which we have at present at hand as regards the ages of 8 to 21, we can see clearly by the percentages and diagrams that the first molar has more stability and offers greater resistance to decay than the second molar: see Diagram, Fig. 2.

Before we part from Table II, I wish to present an investigation on sex immunity. Comparisons are seen in the last part of the Table, Columns 1 to 4, were nade on 706 children, 351 of which which are male, and 355

female. Percentages were taken on the molar teeth only, which constitute nearly the whole of the affected teeth between these ages (8 to 13). The results shown in Columns 15 to 18, present male - 51 % healthy a and 49 % diseased: and female - 52 % healthy and 48 % diseased: or a difference of 1 %.

Third Molar.

Long before this we had lost hope in the third molar as a contributory factor on masticatory efficiency. In spite of this, however, it is part of the tooth family, and cannot be left without some consideration.

Table III, shows that out of 160 boys at the age of 21, 68 boys, or 42 %, had their third molars fully erupted; 52 boys, or 32 % had partial eruption; and 40 boys, or 25 % showed no eruption.

As to adults we can say nothing, as it could not be ascertained how many were missing or erupted, as in the first case, and how many were missing bu removal.

As the figures stand, however, it seems that in spite of the unfavorable position in which they are in the mouth as regards cleanliness, they held very favourably.

There have been made no observations with regard to the percentage of impected third molars. Attention was, however, given in the adult age, where nearly all of the first and second molars were destroyed or missing, to ascertain its usefulness in masticatory efficiency. This has brought to light that in 162 cases, where class observation was made, there were only four cases in which this tooth was coming in somewhat normal relationship with its antagonistic to offer any service; a percentage teo low to call for any consideration.

Dental caries and their causes.

In consulting dental literature on dental caries, giving special attention to the theories of the causes of this malady, one comes to the conclusion that we are dealing with differend themes altogether. It is believed, however, that if the different investigators of dental caries would take as a basis of this study, the racial, the environmental, and the dietary conditions as the primary causative factors for this disease, there is no doubt that a greater reconciliation of those theories would occur, and the handling of the problem would become much easier.

With this thought in mind, I will present here dental caries as found in Greece, and I am hoping that other investigators will not fail when making their comparisons, to compare the conditions also.

The first group of people that I approached for examination during the process of the survey was the 1st Company of the First Regiment of Infantry stationed in Athens. There I found that in 10 cases out of 15, the gingival third of the tooth was not accessible ou account of inflamed gums, presence of calculus, stains, etc. This fact, and the great devastation of the tooth structure in the other two thirds of the free portion of the tooth, induced me to modify my classification on decay as we have seen it bofore. Now as the progress of decay at this age of 21, and more so in the adult, has passed its primary stages, a condition that makes a study of caries impossible, we will turn to a scale of younger ages.

In the ages of 8 to 13, as shown is Table No. II, we have a total of 706 children, with 2177 affected teeth: (there is no record of the number of caries on each tooth; when there was more than one caries the most predominant one was taken into consideration, in order to make the classification of the degree of decay, and to designate also the locality of the same). From this number, 1958, or about 90 %, represent molar teeth, and 219 all others; this lesser number, 219, being about 10 %, represented 98 atrophic teeth and 121 others affected in various degrees, and distributed as follows:

Bicuspids,	upper,	66
Bicuspids,	lower,	13
Laterals,	upper,	28
Centrals,	upper,	13
Canine,	upper,	1

The caries on these teeth were found where normally occur, i. e. in the sulci and proximal surfaces of the bicuspids, the lingual and proximal surfaces of the lateral, and in the proximal surfaces of the centrals, No caries on the gingival third occurred on these teeth.

The larger group of 1958 were molars. From these we have 138 Brokendown, missing and atrophic teeth, in which we cannot trace the locality in which the caries started; and 1820, or about 85 % affected with caries of second and third degree, traceable to various localities and distributed as follows:

a) 22 teeth in the gingival third with no other caries on the tooth or that being the most predominant one:

b) 138 teeth in proximal surfaces, with no other caries on the tooth, or that being the predominant one: and,

c) 1658 in the sulci and the lingual groove of the upper molars, and in the sulei and buceal groue of the lower molars.

From these findings we see that the caries in the molars which constitute nearly the whole of the affected teeth, occur in the first two thirds of the free portion of the crown.

As to the causes of dental caries, I wish to state here that my purpose is not to repudiate any theories on this subject, nor even to claim a place amongst the investigators of it, in putting forth my personal theory. What I would say on this very important subject is, that it is the result of a chain of indisputable factors which revealed to me, during the progress of the investigation, and brought me to the conclusion that caries in Greece, and especially in this particular locality, are due to dietary conditions.

It is evident from what we will see below that mal - nutrition or improper nutrition, which is the primary cause, has as its consequence a faulty calcification which comes as a secondary cause. The above assertion is substantiated by the following evidences.

1) That caries are found in the two upper thirds of the free portion of the tooth, which is less burdened by bacteria or fermentable substances than the gingival third which is comparatively speaking free from caries.

2) That 24 %, or nearly the fourth of the second molars were found to be affected during the first years after eruption, which proves that, that tooth was affected before there was sufficient time for the other causitive factors to exert any influence whatever upon the tooth.

3) That the greater immunity of the first molar to caries, which at the age of 21 was found to be less affected than the second, proves that this tooth owes its greater degree of resistance to caries, to the better nutritive processes that were prevalent during the period of its calcification, the same being 99 % in the poorer classes, due to the mother's milk.

There is no doubt in our mind, that bacterial, salivary, hereditary and other factors, play an important part in the progress or retardation

of the caries, but in the face of the above knowledge the causes are evident, and efforts along preventive, lines should be directed towards the field of nutrition.

Conclusions.

Although the subject of dental decay constitutes a separate theme, and is independent from other abnormalities of the oral cavity, yet a development of all the subjects of this investigation parallel with each other, especially the studies of gingival abnormalities and that of the deciduous teeth, would give a person a broader view from which to form his conclusions.

The gingival abnormalities in general, are not to be rated as second to that of dental diseases, but quite on the contrary. In 52 cases out of 160 of the Army boys, I have found pyorrhea pockets of various depths, and before this data is well classified and carefully studied it is advisable to confine our conclusions on dental diseases, hoping, however, that I may soon be in a position to give further information.

Now in discussing dental diseases and the measures which are taken against them. I would like to say that the population of Greece, as seen in Tables I. and II., is sericusly affectied. We start as is shown with 15% of decay free (immune) individuals at the age of 8, and come down to zero at the age of 41; and when we take into consideration the masticatory efficiency of that Group age of 41, represented by the molar teeth, we find 78% affected, with 50% missing and broken down. Thus it seems that as the remaining teeth very, very seldom acclude to offer any service, masticatory efficiency is impaired by 90 to 95% at the above age.

Now what this means in suffering, loss of health, shortening of life, and economic loss to the individual and to society, no one knows. Perhaps in the future, I may try to give an idea on some of these questions that can be subjected to calcoulations.

In discussing the measures that are taken here against these diseases, the word «nothing» will give pretty nearly the best answer that one can attempt.

The National Foundation League and the Red Gross have established dental clinics to take care of emergency cases and suffering, and their efforts are worthy of all praise; but the activities of these institutions, taking care of about 1% of the children in need, and that in the

city of Athens, should not be confused with the problem of preventive dentistry, which is too big a one and rather beyond our present-day knowledge here.

A point, however, worthy of great consideration in connection with this problem is the lack of adequately trained dentists. It is the opinion of many that there are nowhere well-trained men for what we call children's dentistry, not even in the United States of America. But when we come to countries of second and third category in dental progress we must wait at least eight years before such a man will become available to offer good dental services. The same time is necessary to prepare the training staff, and the time is also required to train the men to become dentists.

Another point worthy of our consideration with regard to Orar and Dental Hygiene is the matter of finance. From what I have read, and also from personal conversations, I have found that the medical man who generally fosters worldwide benevolent movenents considers oral and dental diseases as epidemic, forgenttig, as it were, that to oral and dental conditions is attached an expenditure for the upkeep and repair even under the best circumstances, and this presents an obstacle to the improvement of conditions among the masses.

I do not know if anyone could do justice to the question beyond the knowledge of his own limited circle, so I will confine myself to some conditions found here, Viz., of Group cases No. 3 and 10, of Table I., with which comparisons can be made, in order to see its importance.

In the first case (Group 3), we have 178 children of the age of 10, with an average of 3 diseased teeth per child, and with only 50 % relatively speaking normal gingiva: to take care of these children in rendering them adequate dental service would require on an average an expenditure of 10 to 12 Dollars per child, to begin with, to say nothing of the expenses for Prophylactic measures and repair of the teeth in following years.

Conditions change materially when we consider the financial demand connected with the age of 21 (Group No. 10). There we find the following averages per boy: (of 160 boys):

4. Carious teeth, without pulp involvement;
1.6 With Pulp involiment.
.80 Broken down teeth.
1. Missing.

To these may also be added one prophylaxis, and a pyorrhea pocket to be treated on every third boy.

Now for the above dental service will be required on the average about 22 hours in time, and that with the necessary materials for the replacement of two teeth (i. e. broken down and missing teeth), representing an approximate sum of 140 to 150 Dollars per boy.

At this age of 21, we see that the finance, as attached to each individual becomes a problem which is almost impossible to solve.

The financial obstacle seems to place a barrier on any other form of activity exepting that of education. This, of course, will help us more than in one way towards the improvement for these maladies, and even call upon some of the benevolent funds that are expended throughout the wold for less important causes to this important one.

Not to a less degree, of course, will this education stimulate the appetite of the public to seek and taste this poisonous food that we call «poor dentistry». For this, if I am permitted, I would like again to call the attention of all concerned, to exert all possible influence for the betterment of the dental profession.

How an external influence can penetrate national and political barriers, and how it can overcome petty egoisms and ignorance of educational groups in some countries, to brinq about better qualifications of the dentist of tomorrow, I do not know. One thing, however, is clear, that until this betterment of the dentistry of the world is accomplished, it seems preferable that countries in the second and third categories of dental progress should entrust contitions to nature which never makes such mistakes as incompetent men.

TABLE I

DENTAL DISEASES PER GROUP WITH PERCENTAGES OF DECAY FREE PERSONS, AND AVERAGE DISEASED TEETH PER PERSON

Groups	Place of Investigation	№ of Persons Examined	Sex		Everage age.	Dental Diseases				Total № of diseased teeth	Decay free Persons		Diseased Teeth Per Person	
			Male	Female		Decay Without Pul. Invol.	Decay With Pul. Invol.	Broken down teeth	Missing		№	%	Person	Teeth
1	Public School at Byron Athens	72	42	30	8	154	5	9		168	11	15	61	2.7
2	Public School Liopesi Rural	117	71	46	9	271	10	10		291	17	15	100	2.9
3	Public School at Fix Athens	206	84	122	10	476	41	16	1	534	28	14	178	3.
4	Liberopoulos Private Athens	50	23	27	9	141	16	14	1	172	6	12	44	3.9
5	Armenian School Athens	104	49	55	10	263	11	12	3	289	10	10	94	3.7
6	Orphanage Hatzicosta Athens	50	50		11	184	10	12	5	211	5	10	45	4.6
7	Orphanage Amaleion Athens	76		76	10	201	33	12	14	260	7	9	69	3.7
8	American College Old Phaleron	52		52	16	181	63	13	19	276	5	10	47	5.8
9	Athens College Psychico	51	51		13	202	44	24	9	277	3	6	48	5.8
10	First Regiment of Infantry Athens	160	160		21	653	247	140	160	1200	4	2.5	156	7.6
11	Industrial Workers of Piraeus and Eleusis	132	91	41	41	287	179	265	805	1536	2	1.5	130	11.8
12	Clinic of Krikos and Papantoniou Athens	29	11	18	41	141	109	27	224	501	0	0	29	17.2
	Total	1099	632	467	17	3154	768	554	1141	5717	98	9.9	1001	7.7
		1	2	3	4	5	6	7	8	9	10	11	12	13

Natural ware in the form of abrasion or erosion, is not treated, here, as a disease.

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TABLE II

ANALYTICAL CLASSIFICATION OF THE MOLAR TEETH WITH PERCENTAGES OF HEALTHY AND DISEASED PER AGE, AND SEX IMMUNITY AS BELOW:

Age	No Examined	Sex.		Total No of Diseased Teeth	Diseased Molars		No of Molars Normally Found	First and second molars										
								Healthy		Diseased		Broken Down	Missing	Healthy		Discased Broken down or missing		
		Male	Female		No	%		1st.	2nd.	1st.	2nd.			No	%	No	%	
8	91	43	48	180	175	97	364	194		168		2		194	53	170	47	
9	95	44	51	244	223	91	380	161		215		4		161	42	216	58	
10	112	56	56	284	261	92	448	202		235		13		200	45	248	55	
11	129	65	64	338	303	90	516	240	25	257	27	12	7	265	51	303	53	+52
12	135	77	58	535	476	89	1080	214	370	306	133	21	16	584	53	464	44	—37
13	444	66	78	596	520	87	1152	249	383	300	189	20	11	632	54	520	46	
16	52		52	288	216	75	416	81	119	112	87	9	8	200	48	216	52	
21	160	160		1203	797	61	1280	277	206	250	387	63	97	483	38	797	62	
41	162	102	60	2021	1016	50	1296	121	159	154	202	103	557	280	22	1016	78	
8-13	706	351		1976										1010	51%	978	49%	
			355	1964										1016	52%	958	48%	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	

Age on this Table is taken to show the year and any part of a year up to the succeeding year. Percentages are based on the number of normally found teeth at each age. Percentages at the ages 11 and 12 are affected by premature and late eruptions, of 89 molar teeth.

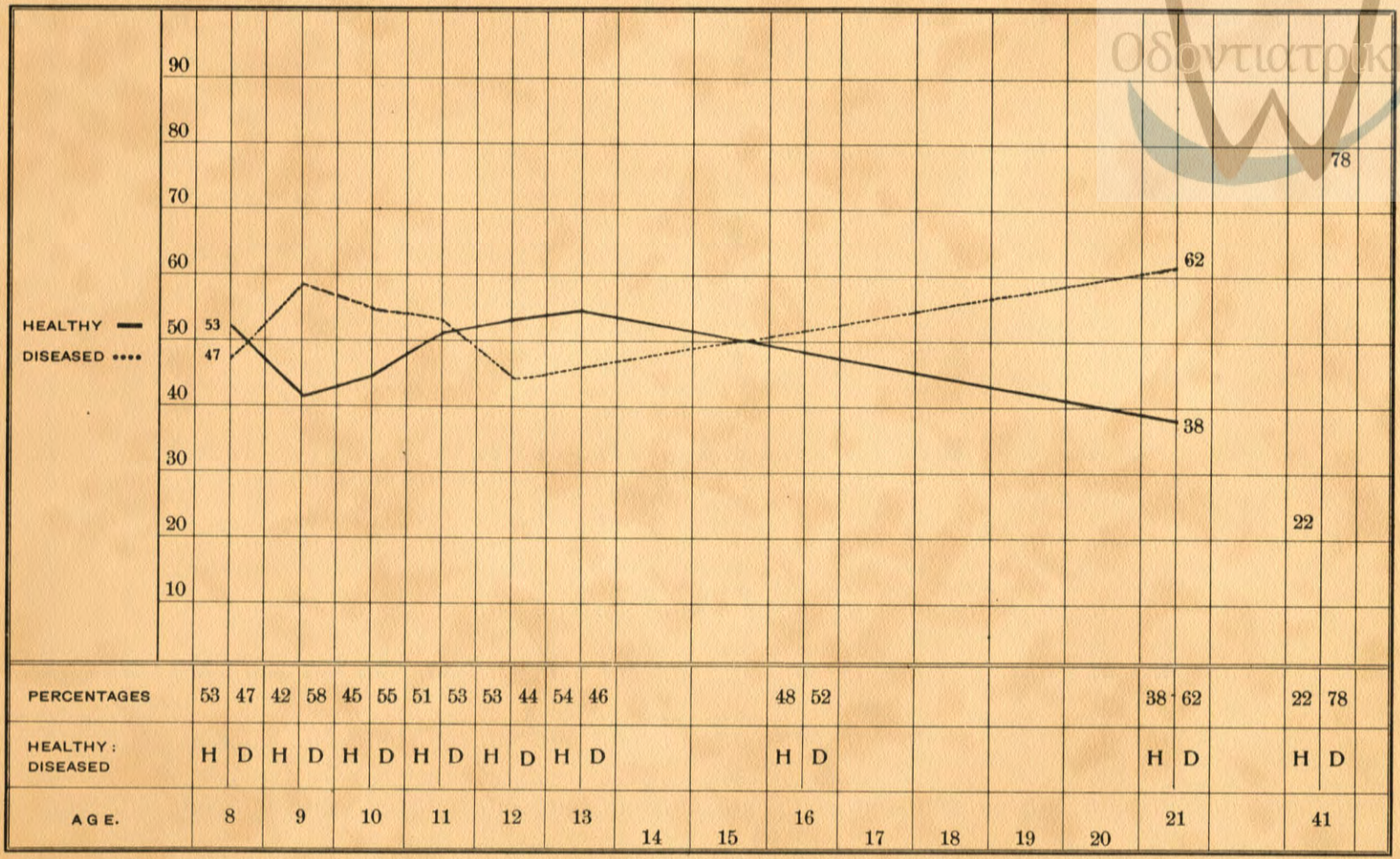
TABLE III

THE THIRD MOLAR

Age	No Examined	Eruption						No Normally Found	Healthy	Diseased	Unerupted or Missing
		Full		Partial		Latent					
		No	%	No	%	No	%				
21	160	68	42	52	32	40	25	640	192	160	288
41	162							648	211	148	289

DIAGRAM I

PERCENTAGES OF HEALTHY AND DISEASED MOLAR TEETH AS IN TABLE II. WITH DIAGRAM SHOWING THE PROGRESS OF THE DISEASES.

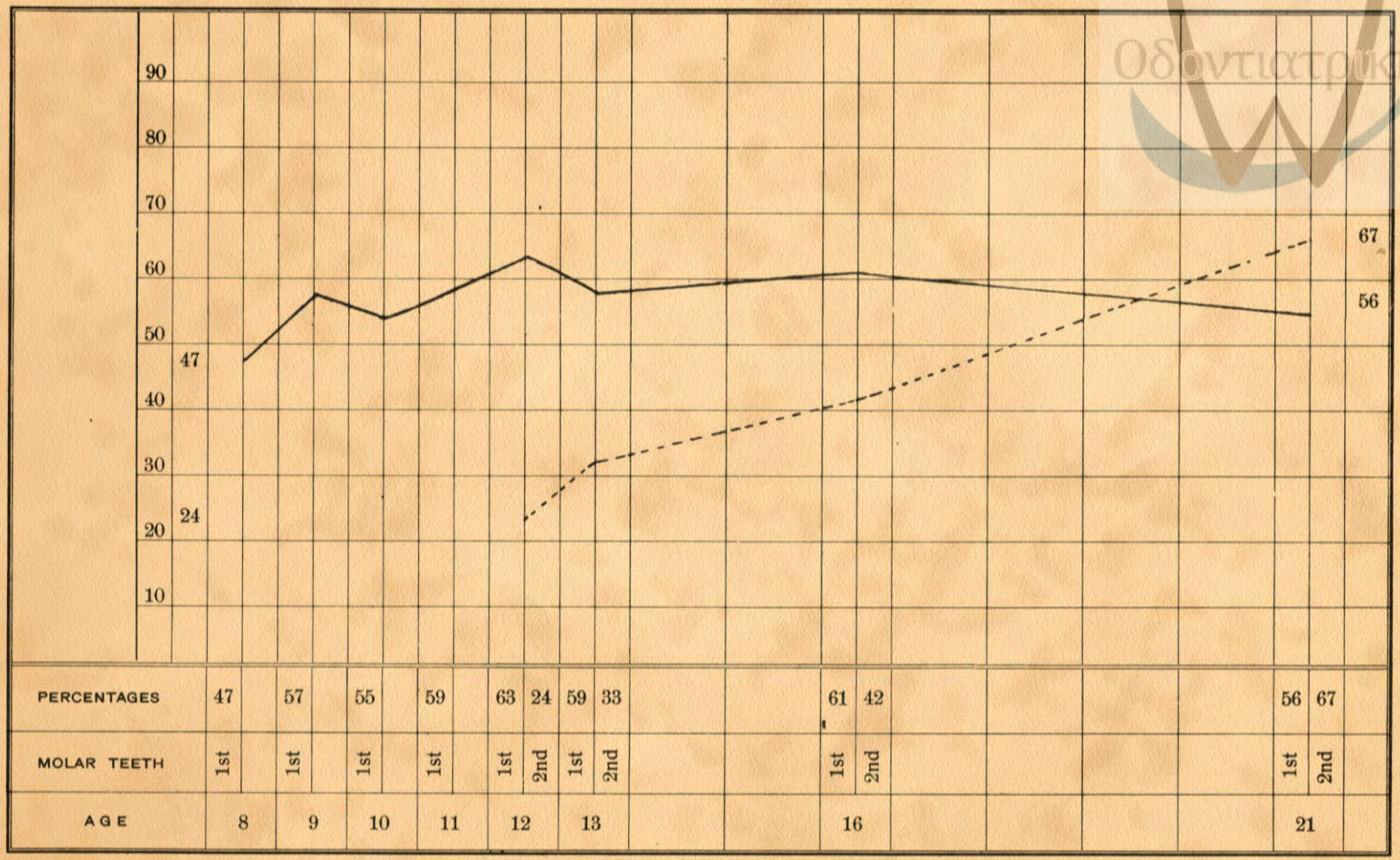


PERCENTAGES	53	47	42	58	45	55	51	53	53	44	54	46			48	52					38	62		22	78
HEALTHY : DISEASED	H	D	H	D	H	D	H	D	H	D	H	D			H	D					H	D		H	D
AGE.	8		9		10		11		12		13		14	15	16		17	18	19	20	21			41	

Diagram stops at the age of 21, as there is no material to follow the course of the diseases: percentages of 41, are showing in their respective column.
The third molar is uot included in these calculations.

DIAGRAM II

PERCENTAGES OF DISEASED 1ST AND 2ND MOLARS, WITH DIAGRAM SHOWING ABNORMAL SUSCEPTIBILITY TO DECAY OF THE 2ND MOLAR.



PERCENTAGES	47		57		55		59		63	24	59	33			61	42					56	67
MOLAR TEETH	1st		1st		1st		1st		1st	2nd	1st	2nd			1st	2nd					1st	2nd
AGE	8		9		10		11		12		13				16						21	

The percentages of the disease of the first molar presents flactuations and the inercase of the disease is 9 points in 13 years. There are no flactuations in the percentages of the second molar and the increase of the disease is 43 points in 9 years. I have no explanation to give with regard to divers ratio of the DECREASE of the diseases with the INCREASE in age, as it appears in the percentages of the first molar.