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ANTHROPOLOGIE SOCIALE ET CULTURELLE

A SKULL WITH A POSSIBLE SWORD STROKE FROM TROPAEUM TRAIANI

ANDREI DORIAN SOFICARU

The skull was discovered in 1972 at Tropaeum Traiani, a Late Roman Empire city from eastern Romania (Adamclisi village, Constanţa county), in sector D, edifice D3, level NW at 1.05 m depth. Archaeologists connect the end of the level with the Avars'invasion in 586. The skull has the trace of a hit in the right cheek, temporal and maxilla. It is very sure that the mandibular condyle and coronoid process were affected. Anatomically, the sharp object meets the masseteric muscle, facial artery, parotid duct, and the temporal muscle, after cut resulting hemorrhage and bony splits. I suppose that the hit came from the lateral right, from up downwards at an angle of 15°, with a sharp object of 100 mm length and 30 mm breadth, possibly a sword or an axe.

INTRODUCTION

This skull (with notation TT/72, P.E., S III, square 15, depth = 1.05 m) belongs to the collections of Dr. Cantemir Rişcuţia and came into our possession in 2004 when we took the archive and different osteological materials from the "V. Babeş" Institute. The skull was discovered in 1972 at Tropaeum Traiani, a Late Roman Empire city from eastern Romania (Adamclisi village, Constanţa county) during the excavations of I. Bogdan-Cătăniciu" (Morintz 1973, p. 361).

The archaeological state was presented as follows: "Over the NW treading level there is a large quantity of burned remains, bricks and ceramic fragments. We believe that the housing of edifice D3 was interrupted by a huge fire which also affected other areas. There was a skull without mandible in the inner courtyard, near the first trunk of a column (C_1) and near of southern wall of room á among the ruins (Barnea 1979, p. 102 and fig. 87). Note 5 of the same text specifies about this skull that it will be analyzed by Dr. Cantemir Rişcuţia, but for unknown reasons this he did not happen. In the present article we try to recover the anthropological information thereof and to pay our respect to Dr. Cantemir Rişcuţia.

Level NW was dated by archaeologists at the end of the VIth century A.D. and the skull may well belong to the same epoch (Barnea 1979, p. 106).

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METHOD

White's method (1991) was used for osteological identification and Anderson's method (1983) for the anatomy. The methods of Brothwell (1981) and Bass (1987) were applied for sex determination and age estimation. The cranial measurements were taken after Martin's method (1914) using White's recommendation (1991). Analogies for paleopathology were taken from Ortner (2003).

STUDY

Description. The skull is complete, just with some missing parts. The zygomatic process of the right temporal over the suprameatal crest is missing from older times and so is the masseteric origin and temporal process of the right zygomatic. The right maxilla has missing parts from older times on the same direction as the others, *i.e.*, it has not the lower part, with all the teeth. On the left side only the canine, premolars, molar 1 and 2 are preserved. An absence on the left nasal can also be observed. The mandible has not been preserved.

Sex determination. Skull massiveness and large supraorbital ridges, nuchal crest and mastoid process indicate a male (Brothwell 1981, pp. 59-61 and fig. 3.1, p. 60; Bass 1987, fig. 45, p. 82).

Age estimation. The right first maxillary molar has wear stage 5 and the second molar, from the same anatomical region, has wear stage 4+, which indicates an age of 25–35 years (Brothwell 1981, fig. 3.9, p. 72). Nevertheless, observing the synostosis stage of the cranial suture, we incline to establish an age of 30–35 years (see the Fig. 1).

Metrics and indices. 18 measurements were done and 10 indices were calculated using White's recommendations (1992, table 15.2, p. 293) but according to Martin's methodology (1914, p. 519-574).

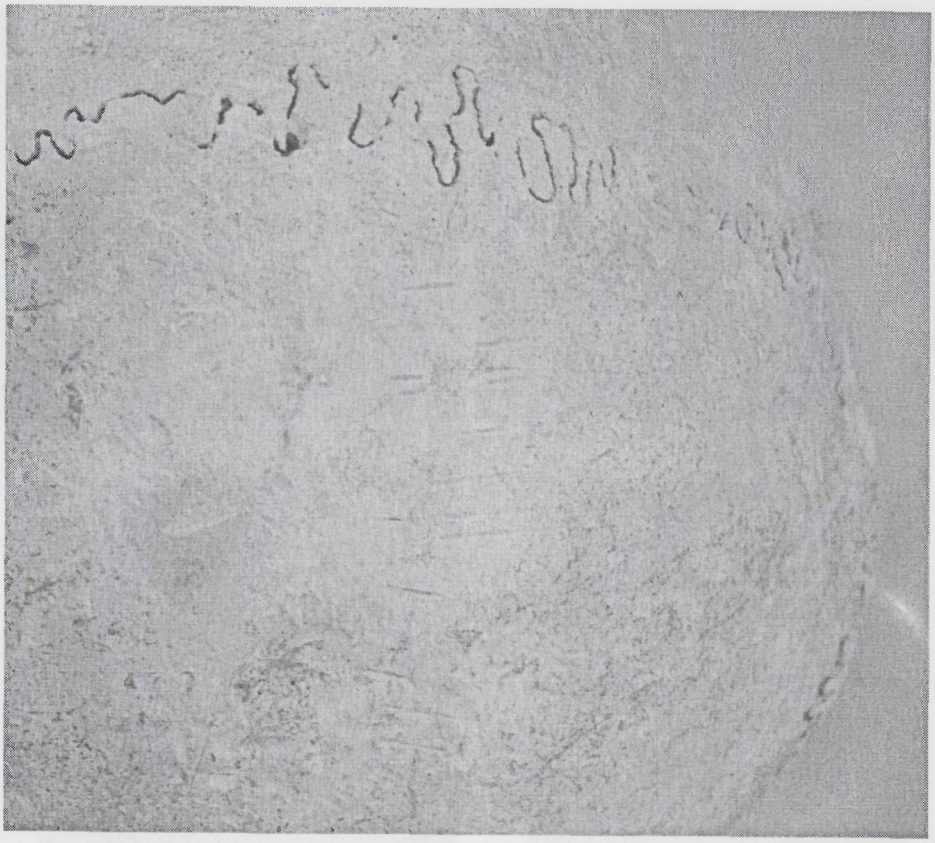
Table 1

Cranial metrics and indices

Martin number	Value
1. (g-op)	194
8. (eu – eu)	154
9. (ft – ft)	103
17. (ba – b)	149
45. (zy – zy)	142 (!)
47. (n – gn)	-
48. (n – pr)	70 (!)
51. Breadth of right orbit (mf – ek)	41
51. Breadth of left orbit (mf – ek)	41
52. Length of right orbit	34
52. Length of left orbit	34

(continues)

Fig. 1 – Cranial views: a. Right lateral view; b. Left lateral view; c. Anterior view; d. Posterior view; e. Superior view; f. Inferior view.



a.

b.

Fig. 2 – Pathology: a. Hitting traces on the left pariental;
b. Cut trace from the right side having affected the zygomatic, temporal and maxila

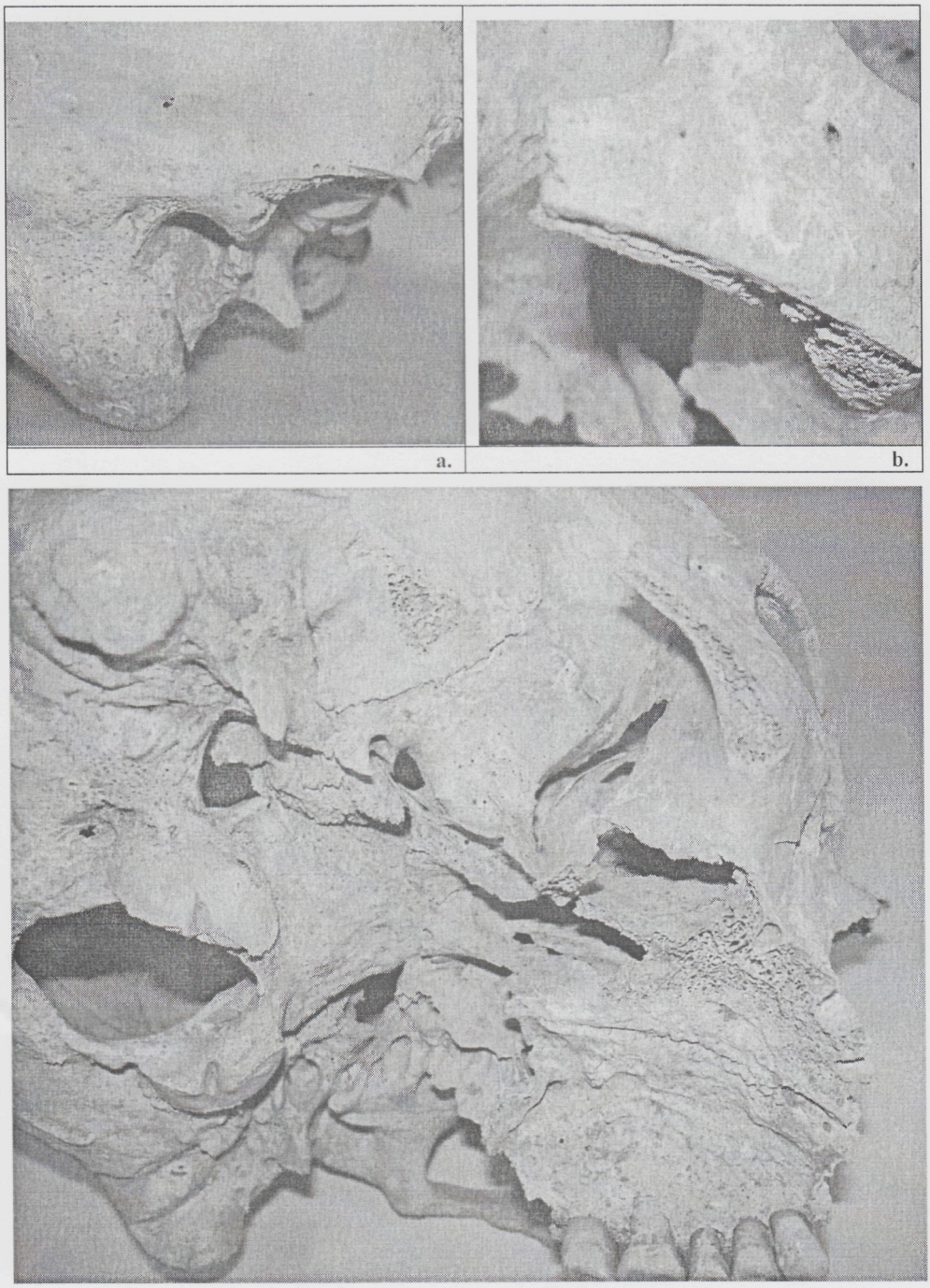


Fig. 3 – Pathological details: a. Temporal; b. Zygomatic; c. Inferior view

Table 1 (continued)

54. Breadth of nose	25.5
55. (n – ns)	51
62. (ol – sta)	30 (?)
63. (enm – enm)	-
65. (kdl – kdl)	-
66. (go – go)	-
69. (gn-id)	-
I 1. (8:1)	79.38
Cranial module (1+8+17) / 3	165.66
I 2. (17:1)	76.80
Martin number	**Value**
I 3. (17:8)	96.75
I 38. (47:45)	-
I 39. (48:45)	49.29
I 42. (52:51)	82.92
I 42. (52:51)	82.92
I 48. (54:55)	50
I 58. (63:62)	-

Pathology. On the parietal tuber, 11.50 mm from the sagital suture 14 hitting traces may be observed. We studied them with an 8x magnifying glass to establish shape, size and dimensions. The traces are approximately parallel to the sagital suture, having lengths between 5–15 mm and breaths of 0.55–0.77 mm; their heads are pointed and the sections have a "V" shape (Fig. 2a).

As can be seen from the description of the skull, some parts are missing from older times on the right temporal, zygomatic and maxilla. All the three bones were affected by a hit with a sharp object, which stroke in a plane with an inclination of 15°, on a length of 96 mm and entered the skull 26.6 mm deep (measuring from the outer edge of the zygomatic to an imaginary line uniting the most posterior point of the temporal to the most anterior point of the maxilla) (Fig. 2b). This stroke cut the lower part of the right zygomatic and the zygomatic process, stopping (as regards the posterior area of the hit) above the mandibular fossa (Fig. 3a and b). Toward the anterior area, the hit touched, after passing through the zygomatic, the alveolar process of the right maxilla passing then above the dental arcade. The stroke was strong enough to break parts of the temporal, dental sockets and palate (Fig. 3c). It also split the maxilla towards the infraorbital foramen.

CONCLUSION

Before discussing the perimortem traces of the skull, first it is necessary to outline the historical context. The skull was discovered in sector D, edifice D3, level NW at 1.05 m depth. Archaeologists connect the end of this level to the

events of 586, when the city of Tropaeum Traiani suffered important destructions caused by the Avars' invasion (Barnea 1979, p. 106). It very possible that the skull could belong to a native or a barbarian who died in this war. It must be mentioned that no other human bones were discovered in the same archaeological context and it can be presumed that the skull reached the level separately from the body, in fact after skeletisation. An argument in this sense is that the hit did not produce decapitation.

Osteologically the skull has got a hit in the right cheek, then in the temporal and maxilla; it is sure that the mandibular condyle and coronoid process were affected. Anatomically, the sharp object met the masseteric muscle, facial artery, parotid duct, and the temporal muscle (Anderson 1983, figs. 7-15 and 7-70) after cut resulting hemorrhage and bony splits. The stroke was serious but not mortal, however the person died, as the skull has no trace of healing. It could be supposed that the stroke came from the right lateral, from up downwards at an angle of 15°, with a sharp object of a length of 100 mm and breadth of about 30 mm, possibly a sword or an axe. An analogical situation is the trauma suffered by an aboriginal from Australia discovered in a site near the Stewart River, Queensland (SAM A 11411). The trauma was caused by an oblique stroke of a sword penetrating the mandibular body and left maxilla. The cut dislocated the entire right half of the mandibular dentition and all the teeth from the side of the maxilla (Ortner 2003, p. 142 and figs. 8-38 a and b, p. 143).

The hitting traces from the parietal may have been produced by the same kind of weapon but we can not say if this happened before or after the main trauma. We can conclude that the skull belongs to a mature male who suffered a traumatical episode as a result of his participation in a conflictual event.

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SOME PRELIMINARY RESULTS OF THE ANTHROPOLOGICAL INVESTIGATIONS ON THE SOUTH-MOLDAVIA MEDIAEVAL ROMANIAN VILLAGE (THE XVIth CENTURY MIDDLE-AGE NECROPOLIS OF VÂNĂTORI-GALAȚI)

GEORGETA MIU, DAN BOTEZATU

The study provides some preliminary anthropological data concerning a series of skeletons discovered in the mediaeval (XVIth century) village of Vânători, Galați county. The series is formed of 53 skeletons, out of which 28 belong to 0-14 years old children. Such a high mortality in children, accompanied by a low frequency of deceased older than 60, concludes to a reduced longevity of this population. Thus, the average age of decease for the whole community of only 18.9 years and 34.9 years for the 2-x years old individuals. Typologically, the mediaeval community of Vănători stands as a Mediterranean-Dinaro-Alpine anthropological complex, within which the characters of the Mediterranoid type play a significant part. The characters of this type are most frequently met mixed with other structural elements, exclusively Europoid, which leads to some half-breed forms, such as the Mediterranoid-Dinaric, Mediterranoid-Alpine or Northen-Mediterranoid ones.

INTRODUCTION

The archaelogical diggings made by Mircea Nicu – an archaelogist from the Tecuci Museum of History – in the village of Vânători, Galați county, revealed the existence of a necropolis belonging – in his opinion – to the XVIth century.

In a first stage of the archaelogical investigations, some 70 graves were discovered, the human bony material being sent, for a thorough anthropological study, to the Iași Section of Anthropology. This makes actually the topic of the present work.

MATERIALS AND METHOD

In spite of careful operations, from the partially excavated osteological material, only 53 skeletons more or less complete could be recovered, in view of an individual and, subsequently, a populational study, permitting to evidence the bio-morphological

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peculiarities of the mediaeval population from the respective locality.

The anthropometric and conformational study of each skeleton was developed according to R. Martin and K. Saller's techniques using V.P. Alexeev and G. F. Debeț's mean dimorphic scales for dimensional evaluation. The somatoscopic and typological characterization was developed according to J. Weninger and G. Olivier's methods and scales.

RESULTS AND DISCUSSION

Paleo-demographical considerations

As already mentioned in the study, the osteological material from Vânători corresponds to a total number of 53 inhumation skeletons, the decease age of which was wholly determined.

As to their sex, it was established only for the adult and mature skeletons, as well as for the teen-agers (14-20 years).

The analysis of the main demographic indices, considering the low number of skeletons, is limited exclusively to the ones referring to the structure on sexes and the age of the subjects, as well as to the average age of decease.

Out of the 53 skeletons, 28 belong to children, who represent more than a half of the whole series (about 53%), among them, the most numerous ones (45%) belonging to children under 7 years.

The teen-agers are represented by 5 skeletons (about 10%) which, together with those of the 0-14 years old children increase in a substantial manner the decease ratio of the subadult subjects (around 63%).

For this population, the critical age of mortality is represented – as already mentioned – by the first part of childhood, mortality being induced, on the one hand, by an increased density of the population and, on the other hand, by the precarious living conditions – known as having direct consequences on the less adapted individuals.

Out of the subjects older than 20 years, about 11% died between the age of 20-30 years, about 23% between 30-60 years, and only 4% exceeded the age of 60 years.

Such a reduced longevity and the high infantile mortality, testifies to a very low average age of life, which records a value of 18.9 years at the level of the whole population (0-x years).

If considering the subjects that exceeded 20 years, then the longevity of the 20-x years population amounts to 34.9 years, the values recorded on sexes being of 36.8 years for the male group and, respectively, of 31.6 years for the female one. As to the frequency of deceases for the two sexes, a certain prevalence of the males (about 30%) may be noticed, comparatively with the females (about 17%).

All the above observations permit the conclusion that the population of Vănători, which lived in the late mediaeval period in the southern part of Moldavia, is characterized by a very high infantile mortality and a quite low duration of life, being similar from this point of view with the populations of Bârlad, Trifeşti and Roman, that lived on the territory of Moldavia during early and late feudalism.

Anthropological characteristics

Out of the 25 skeletons belonging to almost adult (18-20 years), adult or mature subjects, only 18 skulls (11 masculine and 7 feminine) permitted a thorough bio-morphological study. The bony pieces or the isolated fragments, evidencing no anatomical connexion, provided though some observations of a morphological nature.

The main absolute and relative indivudal values, along with their corresponding average values, calculated on sexes, are listed in Tables 1 and 2, while the distribution on categories of the main cephalo-facial indices and of stature, is illustrated in Table 3.

The cephalic skeleton

Generally, the *neuroskull* is, averagely long and narrow in men, short and averagely large in women. According to such dimensions, the cranial index is mesocrane in the former and, respectively, brachycrane, in the latter. The distribution, on categories, of the cephalic index corresponds to the average values, which indicate the predominance of the mesocrane skulls in the masculine series and, respectively, of the brachycrane in the feminine ones.

Nevertheless, while in the former group, dolichocrane or brachycrane skulls are met, in the latter one the skulls are mostly of the brachycrane or, less frequently, mesocrane types.

Such a distribution of the cephalic index suggests that the mediaeval populatiom from the settlement corresponding to the necropolis possessed the characteristics of a meso-brachycrane population.

The development of the skull, in absolute height, is – in both sexes – of the low type, as indicated by the average values o e two vertical dimensions, the basio-bregmatic and the porio-bregmatic ones.

The relative development of the neuroskull, *versus* its longitudinal diameter, is medium, the average values of the vertical-longitudinal indices (the basio-bregmatic and, respectively, the porio-bregmatic one) belonging, in both sexes, to the orthocrane category. In the case of the porio-bregmatic index, the average values are slightly higher, occurring either at the superior limit of the orthocrane category (in the case of men), or at the inferior limit of the hypsicrane one (in the case of women). The distribution on categories of these indices reflects, in both cases, a quite reduced variability and a predominance of the orthocrane skulls, the

hypsicrane (high) forms being quite weakly represented, while the camecrane (low) ones are to be met in only two cases (and exlcusively in the case of the porio-bregmatic index, in men).

As to skull's development in height *versus* its horizontal diameter, the average values of the vertical-transversal indices (the basio- and the porio-bregmatic one) lie within the metriocrane (medium) category in men and, respectively, the tapeinocrane (low) one, in women.

For both indices, the average values illustrate appreciable differences between men and women – of about 4 i.u. – in the case of the basio-bregmatic index and, respectively, of 3 i.u., in the case of the porio-bregmatic one; all these differences evidence the contrast between the skull's longitudinal and transversal development, for both sexes.

Special mention should be made of the fact that men evidence a more ample individual variability than women, from tapeinocrane (low) to acrocrane (high) forms, the metriocrane being predominant, for both indices. In women, the tapeinocrane forms (an exlcusive form in the case of the porio-bregmatic index), prevail, along with other forms: one metriocrane and another acrocrane.

The dimensions of the forehead – both the minimum and the maximum one – are characterized, in both sexes, by median values of the average type, however, in men, the average value of the minimum diameter occurs at the upper limit of the middle category, which suggests a slightly larger forehead.

The forehead's minimum to maximum width ratio as expressed by the frontal-transversal index – provides average values belonging, in both sexes, to the category of oval foreheads, characteristic for most cases (8 cases out of 9 in men and, respectively, 6 out of 7, in women).

The forehead's minimum to the skull's maximum width ratio – as expressed by the fronto-parietal index – evidences average values belonging to the eurymetope category, in men, and to the metriometope one, respectively, in women. Indeed, the distribution, on categories, of this index, indicates the predominance of the eurymetope foreheads in men, and the presence, in equal ratios, of the eurymetope and stenometope ones in women.

The development of the occiput's width, in absolute value, shows average values, the feminine average occurring, nevertheless, at the inferior limit of the medium category.

Generally, the parietal-occipital index is of the large type in men and, respectively, at the inferior limit of the category, and medium in women, a difference of 3.72 i.u. being thus noticed.

The distribution of such characteristics on categories reflects, in the case of men, a large amplitude of variation (starting from narrow up to very large forms), along with the predominance of large and medium occipital bones.

In women, with one exception only, a large one, most of the occipital bones are of the medium size.

Table 1

Individual and average values of the main cephalo-facial characteristics of the masculine series

Martin No.	Dimensions Index	Age	M 4 25-30	M 5 35	M 6 45-50	M 7 50	M 18 40	M 29 40	M 30 45-50	M 35 18-20	M 47 30-35	M 50 40-45	M 58 65-70	Average
			1	2	3	4	5	6	7	8	9	10	11	12
1	G-op		182	173	185	183	170	184	188	183	180	175	180	180.7
8	Eu-eu		135	143	139	141	135	140	143	147	133	138	128	138.8
9	Ft-ft		99	97	105	-	95	103	105	97	103	89	90	98.5
10	Co-co		117	115	123	117	117	115	123	-	119	117	110	117.7
12	Ast-ast		115	105	114	109	100	109	124	105	108	112	110	109.1
17	Ba-b		131	134	122	137	132	127	137	-	133	129	133	131.9
20	Po-b		111	110	111	114	109	110	118	-	110	110	111	111.8
45	Zy-zy		133	122	131	-	121	129	135	125	131	132	125	128.8
48	N-pr		70	77	69	-	68	68	68	65	66	68	63	68.6
51	Mf-ek		41	40	44	-	40	43	44	39	41	36	38	41.0
52	Height of the orbit		29	35	32	-	31	33	35	35	34	30	30	32.8
54	Al-al		25	20	26	25	23	26	24	18	24	22	22	23.6
55	N-ns		51	54	49	-	49	52	50	47	48	50	50	50.4
62	Ol-sta		41	34	46	41	41	40	41	38	44	36	42	41.0
63	Enm_2-enm_2		-	-	42	-	-	-	36	36	43	37	42	39.7
65	Kdl-kdl		117	112	119	116	109	116	125	102	-	110	112	114.2
66	Go-go		102	105	103	97	91	90	104	87	-	105	93	98.1
68	Depth of mandible		71	66	64	63	66	75	71	65	-	69	72	68.6
$69_{(1)}$	Height at the g.m. level		30	30	30	24	29	29	29	26	-	30	30	28.3
$69_{(3)}$	Thickness at the g.m. level		11	9	11	7	10	12	11	12	-	9	10	10.6

(continues)

Table 1 (continued)

70	Height of vertical ramus	59	61	64	41	56	55	64	44	-	52	57	55 7
71	Ramus breadth	32	33	26	25	27	30	33	30	-	31	31	30 2
8/1	Cranial index	74 1	82 6	75 1	77 0	79 4	76 0	76 0	80 3	73 8	78 8	71 1	76 9
17/1	Long basio-bregm index	71 9	77 4	67 5	74 8	77 6	69 0	72 8	-	73 8	73 7	73 8	73 0
17/8	Transv basio-bregm index	97 0	93 7	87 7	97 1	97 7	90 7	95 8	-	100 0	93 4	103 9	95 6
20/1	Auricular-long index	60 9	63 5	60 0	62 2	64 1	59 7	62 7	-	61 1	62 8	61 6	62 5
20/8	Auricular- transv index	82 2	76 9	79 8	80 8	80 7	78 5	82 5	-	82 7	79 7	87 6	80 8
9/10	Frontal-transversal index	84 6	84 3	85 3	-	81 1	89 5	85 3	-	86 5	76 0	81 8	83 9
9/8	Frontal-parietal index	73 3	67 8	75 5	-	70 3	73 5	73 4	65 9	77 4	64 4	70 3	71 1
12/8	Parietal-occipital index	85 9	73 4	82 0	77 3	74 0	77 8	86 7	71 4	81 2	81 1	85 9	79 7
48/45	Facial superior index	52 6	63 1	52 6	-	56 1	52 7	50 3	52 0	50 3	51 5	50 4	53 2
52/51	Orbitary index	70 7	87 5	72 7	-	77 6	76 7	79 5	89 7	82 9	83 3	78 9	79 7
54/55	Nasal index	49 0	37 03	53 0	-	47 1	50 0	48 0	38 2	50 0	44 0	44 0	46 4
63/61	Palatal index	-	-	91 3	-	-	-	87 8	94 7	97 7	102 7	100 0	95 6
66/65	Mandibular index	87 1	93 7	86 5	83 6	83 4	77 6	83 2	85 2	-	95 4	83 0	85 9
$69_{(3)}$/ $69_{(1)}$	Mandibular robustness index	36 6	30 0	36 6	29 1	34 4	41 3	40 6	46 1	-	30 0	33 3	36 0

Table 2

Individual and average values of the main cephalo-facial characteristics of the feminine series

Martin No.	Dimensions Index Age	M 2 50	M 23 20-25	M 24 18	M 27 60-65	M 32 25-30	M 52 25-30	M 57 25-30	Average
1	G-op	166	169	166	164	174	159	170	167.4
8	Eu-eu	137	135	133	138	143	129	134	136.3
9	Ft-ft	93	98	85	91	102	85	93	92.4
10	Co-co	112	122	105	118	118	106	113	113.8
12	Ast-ast	107	105	100	100	104	103	102	103.4
17	Ba-b	128	123	120	124	123	127	120	124.0
20	Po-b	108	105	106	109	109	99	105	106.6
45	Zy-zy	123	120	112	122	-	115	118	118.7
48	N-pr	-	61	64	66	-	66	62	62.2
51	Mf-ek	39	37	36	40	-	38	39	38.6
52	Height of orbit	33	32	29	34	-	28	29	31.2
54	Al-al	-	23	19	24	-	22	21	21.8
55	N-ns	-	47	47	48	-	44	46	46.4
62	Ol-sta	-	40	36	38	-	41	40	39.4
63	Enm_2-enm_2	-	37	-	36	-	38	37	37.5
65	Kdl-kdl	104	-	91	-	-	109	103	102.2
66	Go-go	95	-	83	-	-	93	90	89.9
68	Depth of mandible	70	-	65	-	-	65	67	67.2
$69_{(1)}$	Height at the g.m. level	28	-	27	-	-	23	27	25.4
$69_{(3)}$	Thickness at the g.m level	3	-	10	-	-	10	10	9.95
70	Height of vertical ramus	46	-	41	-	-	39	52	44.9
71	Ramus breadth	24	-	26	-	-	23	29	26.0
8/1	Cranial index	82.5	79.8	80.1	84.1	82.1	81.1	78.8	81.3
17/1	Long. basio-bregm. index	77.1	72.7	72.2	75.6	70.6	79.8	70.5	74.0
17/8	Transv. basio-bregm.index	93.4	91.1	90.2	89.8	86.0	98.4	89.5	91.3
20/1	Auricular-long. index	65.0	62.1	63.8	66.4	62.6	62.2	61.7	63.5
20/8	Auricular-transv. index	78.8	78.8	79.6	78.9	76.2	76.7	78.3	77.9
9/10	Frontal-transversal index	83.0	80.3	80.9	77.1	86.4	80.1	82.3	81.6
9/8	Frontal-parietal index	67.8	72.5	63.9	65.9	71.3	65.8	69.4	67.7
12/8	Parietal-occipital index	67.8	72.5	63.9	65.9	71.3	65.8	69.4	67.7
48/45	Facial superior index	-	50.8	54.1	54.0	-	48.6	52.5	52.0
52/51	Orbitary index	84.6	86.4	80.5	85.0	-	73.6	76.1	80.4
54/55	Nasal index	-	48.9	40.4	50.0	-	52.3	45.6	47.8
63/62	Palatal index	-	92.5	-	94.7	-	92.6	92.5	93.0
66/65	Mandibular index	91.3	-	91.2	-	-	85.3	87.3	88.9
$69_{(3)}$/ $69_{(1)}$	Mandibular robustness index	34.7	-	37.0	-	-	43.4	37.0	38.2

Table 3

Distribution, on categories, of the main cephalo-facial indices and of the stature

Index	Category	Man		Women		Total	
		N	%	N	%	N	%
(8/1)	Ultradolichocrane (x–64.9)	-	-	-	-	-	-
	Hyperdolichocrane (65.0-69.9)	-	-	-	-	-	-
	Dolichocrane (70.0-74.9)	3	27.27	-	-	3	16.66
	Mesochrane (75.0-79.9)	6	54.54	2	28.57	8	44.44
	Brachycrane (80.0-84.9)	2	18.18	5	71.42	7	38.88
	Hyperbrachycrane (85-89.9)	-	-	-	-	-	-
	Ultrabrachycrane (90-x)	-	-	-	-	-	-
17/1	Camecrane (x-69.9)	2	20.00	-	-	2	11.76
	Orthocrane (70.0-74.9)	6	60.00	4	57.14	10	58.82
	Hypsicrane (75.0-x)	2	20.00	3	42.85	5	29.41
17/8	Tapeinocrane (x–91.9)	2	20.00	5	71.42	7	41.17
	Metriocrane (92.0–97.9)	6	60.00	1	14.28	7	41.17
	Acrocrane (98.0–x)	2	20.00	1	14.28	3	17.64
20/1	Camecrane (x–57.9)	-	-	-	-	-	-
	Orthocrane (58.0–62 9)	8	80.00	4	57.14	12	70 58
	Hypsicrane (63 0–x)	2	20.00	3	42.85	5	29.41
20/8	Tapeinocrane (x–79.9)	4	40.00	7	100.0	11	64.70
	Metriocrane (80.0–85.9)	5	50.00	-	-	5	29.41
	Acrocrane (86.0–x)	1	10 00	-	-	1	5.88
9/8	Stenometope (x–65.9)	2	20.00	3	42.85	5	29 41
	Metriometope (66.0–68.9)	1	10.00	1	14.28	2	11.76
	Eurymetope (69.0–x)	7	70.00	3	42.85	10	58.82
12/8	Narrow occiput (x–71.9)	1	9.09	-	-	1	5.55
	Mean occiput (72.0–78.9)	4	36.36	6	85.71	10	55.55
	Large occiput (79.0–85.9)	5	45.45	1	14.28	6	33 33
	Very large occiput (86.0–x)	1	9.09	-	-	1	5 55
48/45	Hypereuryene (x–44.9)	-	-	-	-	-	-
	Euryene (45.0–49 9)	-	-	1	20.00	1	6 66
	Mesene (50.0–54.9)	8	80.00	4	80.00	12	80.00
	Leptene (55.0–59 9)	1	10.00	-	-	1	6 66
	Hyperleptene (60.0–x)	1	10.00	-	-	1	6.66
52/51	Chameconch (x–46.9)	2	20.00	1	14.28	3	18.75
	Mesoconch (76.0–84.9)	6	60 00	3	42.85	9	56.25
	Hipsiconch (85 0–x)	2	20.00	2	28 57	4	25.00
54/55	Leptorhine (x–46.9)	4	40.00	2	40.00	6	40.00
	Mesorhine (47.0–50.9)	5	50.00	2	40.00	7	46.66
	Camaerhine (51.0–57 9)	1	10 00	1	20.00	2	13.13
	Hypercamaerhine (58 0–x)	-	-	-	-	-	-
Stature	Short	-	-	-	-		
	Sub-medium	3	23.07	4	57 14		
	Medium	5	38.46	-	-		
	Over-medium	4	30 76	1	14.28		
	High	1	7.69	2	28.57		
	Very high	-	-	-	-		

As to the skull's contour in the vertical norm (established in 20 cases), this is most frequently ovoid (in 12 cases), quite rarely rhomboid (4 cases), sphenoid (3 cases) or pentagonoid (1 case). In most cases, the occipital norm has the aspect of a "house" (11 cases), more rarely of a "bomb" and, quite exceptionally, of a "tent" (1 case).

As to the development of the bony relief at the level of the skull's different regions, *versus* sexual dimorphism, one may appreciate that, generally, this is quite weakly developed even on some masculine skulls. Sexual dimorphism is best represented at the level of the temporal region.

Thus, the mastoid apophysis is medium (III degree – 5 cases) or developed (IV degree – 5 cases) in men and, respectively, weak, in women (I-II degrees – 5 cases). Also, the supramastoid ridge is better marked on the masculine skulls.

The shape of the occipital region in the lateral norm is, in most cases, averagely-bulged (in 13 skulls), the flat occipital being present in only one case.

The facial massif is characterized, in both sexes, by an averagely low vertical dimension and, respectively, by a maximum horizontal one, belonging to the low-width category. According to such size, the superior facial index belongs to the mesene type, the average value being slightly higher in men than in women (by about 1 i.u.). The distribution on categories indicates, indeed, a frequency of majority on the mesene sides, and a relatively reduced variability – especially in women.

As to the dimensions of the orbit – width and height – a slight difference may be mentioned between sexes, but exlcusively, to the former one, its average value occurring, in the case of men, at the inferior limit of the medium categoy while, in women, it is situated in the narrow category; on the average, height belongs to the small (low) category, in both men and women.

The orbital index evidences a variability ranging from cameconch to the hypsiconch forms, the average values belonging to the mesoconch category, within which most of the cases may be included.

The nose's dimensions – length and width – show average values, belonging, in both sexes, to the same category, the small one; however, in men, a slight tendency towards larger dimensions may be observed.

The nasal index (expressed by the ratio of the above-mentioned dimensions) provides average values occurring at the limit between the leptorhine (at the upper limit in men) and the mesorhine categories (at the lower limit, in women). The distribution of this index on categories illustrates, in both sexes, the numerical prevalence of the mesorhine and leptorhine forms, along with the rarity of the camerhine ones.

The palatine arch is, in both sexes, short and averagely large, the palatine index being of the brachystaphyline type, which is the exclusive form present here.

As to its shape, the palatine arch (present in 5 cases) is predominantly paraboloid, of average depth, in only 3 cases evidencing an ellipsoid contour,

associated with a reduced depth. As to the development and disposition of the malar bones, a maximum frequency is recorded for the averagely-developed, intermediarily-positioned ones; in 2 cases out of 16, the cheek bones show a slight frontalization tendency.

Analysis of the depth degree of the canine fossa indicates the prevalence of the medium ones (11 cases), along with rare cases of weak or deep fossae.

The pyriform aperture is, in most cases, an anthropine one, only one case of prenasal fossa being met.

The mandible is caracterized by an average width in men and, respectively by a low width in women, by – generally – reduced height and thickness in both sexes and, respectively, by a low index of robustness (the so-called gracile mandible).

One should nevertheless observe that, while, in women, the mandible is exlcusively of the gracile type, in the case of men some robust types may be met (7 cases).

The gnathion region has, in most of the cases, a pyramidal, prominent contour (11 cases), the form with a button being quite rare (2 cases).

The stature and postcranial skeleton

The stature, calculated according to the three classical methods on a group of 13 men and 7 women, is, generally, of an average size (Tables 1 and 2). As to the subjects' distribution on categories according to stature, the following observations can be made: in the case of men, the average and supra-average statures predominant, although, besides them sub-average and exceptionally tall statures (1 case) are also present (even if less frequently); in women, although the values recorded are medium, the maximum frequency is recorded in the sub-average category, the remaining 3 cases belonging to the supra-average and tall categories.

The postcranial skull is gracile in women, and robust or averagely robust in men.

The thigh bone is, according to the platimetry index, averagely eurymere in men (80.06) and, respectively, platimere, in women (78.31). From the viewpoint of the pilaster's development, one may observe that, out of the 13 masculine thigh bones, 10 show a pilaster, which appears, in the case of women, in only 2 of the 7 thigh bones present.

The subtrochanterian relief, observed on most of both sexes' thigh bones, is well expressed (in 10 masculine and, respectively, 3 feminine thigh bones), the moderate one being more rarely met (one masculine and two feminine).

The tibia is, according to the platicnemy index, averagely mesocneme in men (69.95 – at the upper limit) and, respectively, eurycneme in women (74.85) Mention should be made of the absence of the "oriental side" at the level of tibia's joint with the astragalus.

The humerus is characterized by a well-developed bony relief in men (in 11 out of 12 cases), and, respectively, averagely developed (2 cases) or developed (2 cases) in women.

The olecranial perforation was not found on any of the humerus bones under investigation.

The typological structure

The analysis of the individual characteristics, permiting, finally, the establishment of the anthropological type, leads to the conclusion that the population of the mediaeval settlement of Vânători was not typologically homogeneous, although worth mentioning is the predominant presence of the Mediterranoid type characters, most frequently occurring in combination with other structural elements. With the exception of two classical representatives of the Mediterranoid type (M_{47} – man and M_{57} – woman), the other individuals represent forms of half-breeding, in different combinations. Worth noting is that the individual study of each skeleton indicates an exclusive presence of the Europoid characters, no Mongoloid influence being noticed.

Depending on the contribution of each Europoid type to the realization of the half-breeding forms, one may observe the presence, in this group of population, of *Mediterranoid-Dinaric* (M_5 and M_{18} – men; M_2, M_{23}, M_{24}, M_{27}, M_{32} – women), *Mediterranoid-Alpine* (M_4, M_6, M_{30} – men; M_5, M_{35} – women) and, more rarely, *Northern-Mediterranoid* types (M_7, M_{50} – men). The contribution of the *East-Europoid* type is negligible, its characters being identified on only two masculine skulls (M_{29}, M_{58}), in combination with those of the prevailing type, *i.e.,* the Mediterranoid one.

CONCLUSIONS

The analysis of the variability of the dimensional and conformative characters evidences that the mediaeval population of Vânători is characterized by an averagely mesocrane skull, in men, and by a slightly brachycrane one, in women, as prevailing forms within each sex. In the case of women, the cranial index is quite homogeneous, being of the brachycrane or mesocrane type while, in the case of men, two dolichocrane skulls were also found.

As to height, the top of the skull is medium, of orthocrane and metriocrane conformation. Generally, the forehead is of the Eurymetope type in men and, respectively, of the metriometope one in women, these being the most frequent forms. The occiput is averagely large in women or large especially in men. its shape being, most frequently, averagely bulged. The facial massif is, in both sexes, predominantly mesene, the euryene (low), as well as the leptene or hyperleptene (high) faces being quite rare. Most frequently, the orbits are mesoconch, the

hypsiconch or cameconch ones being quite rare. The nasal index is situated at the limit between leptorhny and mesorhiny.

As to the stature, most of the subjects taken into study belong to the variants of the average category, the high statures having a quite low frequency.

From a typological point of view, the mediaeval population of Vânători may be considered as a *Mediterranoid-Dinaric-Alpine anthropological complex* within which the characters of the autochtonous Mediterranoid type are quite significantly represented. Obviously, the bio-morphological influences of other groups of coinhabiting or temporary populations (the latter ones present in only some historical periods in the settlement) cannot be left aside, being grafted on a stable, deeply-rooted environment which evolved in time without significant modifications in its biological structure.

The anthropological observations made on older skeletons, from the early and middle Bronze age, discovered in a tumulus (14 graves) in the same locality, support our observations on the existence of certain representatives of the Mediterranoid type as early as those times. Typologically, our study distinguishes two categories of skeletons: belonging to the Mediterranoid type or to the attenuated proto-Europoid one, some northoid influences being exceptionally signaled.

The bones belonging to the Vânători tumulus represent an irrefutable proof of the oldest autochtonous heritage of the region, to be found, to a quite considerable extent, also in the structure of the analyzed mediaeval collectivity.

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ANTHROPOLOGY APPLIED TO DESIGN IN THE ROMANIAN LIGHT INDUSTRY

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Ergonomic anthropology became a priority of applied anthropology, thus introducing anthropology in the circuit of the sciences involved in industrial production processes The big development of the ready-made clothes industry is connected to the concerns of anthropology to create "order" in the huge individual and population variability, particularly by its methodology and anthropometrical technique A series of variability types are to be found in populations, that leave their mark upon this anthropological structure, as follows

1) *Anthropological variability in time* populations are subject to microevolutive type changes (secular trend) of a higher or lower significance In this sense, in our paper we analyzed the microevolutive changes of the body mass in the population studied in the year 2004, compared with the one studied in 1980 The microevolutive changes are generated by the acceleration phenomenon reflected in the increase of the vertical dimensions from a generation to another and produce changes in the individual, hence population's dimensional ratios These changes lead to alterations of the constitution typology, which are reflected in the clothes sizes, a fact that requires periodical reviews of the measures that constitute their basis

2) *Anthropological variability in space*, *i e* , geographical variability In our paper we analyzed not only the geographical variability indices in the present population (2004), but also the geographical variability in time, comparing the data collected in 1980

3) *Sex-related anthropological variability*

4) *Age-related anthropological variability* both in time (comparing the populations studied 2004 and 1980) and in space (as regards the population studied in 2004)

The ontogenetic changes involve a decrease of the subjects' vertical body dimensions (stature, leg length), after the age of 40, due to the subsidence of the vertebral column and collapse of the foot vault An increase of the weight and circumferences, occurred after this age due to physiological changes, is also noticed At the same time, we were concerned with the (BMI) of the body mass index, Quetelet variability in time and space, according to age and sex

INTRODUCTION

Anthropometry is the only universally applicable, economic and non-intrusive method that allows knowledge of the human body dimensions, of their relations and of the body mass, so it can be utilized for establishing human clothes

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sizes for all ontogenetic stages of the human life, from the new-born child to the old age persons. Thus the dimensional prototypes corresponding to each period of life can be ascertained according to sex and body constitution types.

The WHO and different UN specialized institutions organize expert committees to re-assess the importance of the anthropometrical indices in different situations for their application throughout life in order to assure individuals' welfare and health state.

To do so, the choice of the most relevant indices is needed while taking into account the fact that their application and interpretation may differ from one population to another.

In such matters, the WHO expert committees have engaged in:

– drawing up recommendations applicable to the use and interpretation of anthropometry at the individual and populational levels within various operational frameworks (light industry, machine-tool industry, etc.);

– identifying and processing reference data for anthropometrical indices (measurements and their ratios);

– providing directions for the use of the reference data, assuring the framework and context of present and future interpretation of anthropometry.

MATERIAL AND METHOD

This study is part of a national survey having as purpose the knowledge of the anthropometrical variability in the Romanian population, relevant for the autochthonous industrial design, particulary the ready-made clothes industry for women.

To this end we utilized an anthropological record, including the main anthropometrical dimensions involved in the design of different types of ready-made clothes for women. The individual research record included 53 anthropometrical dimensions and 15 identification items.

Five areas were chosen for data collecting: Walachia (Bucureşti), Transylvania (Braşov), Banat (Timişoara), Dobruja (Constanţa) and Moldavia (Bacău).

The results of the ergonomic anthropological researches conducted by Elena Radu *et alii* in the 80s were taken over from the database of the applied anthropology department in our Research Center in order to highlight the populations' anthropological microevolutive phenomena (secular trend).

We used the processing methods of comparative analysis of the data collected in the years 1980 and 2004, the analysis of "Z" standardized variables in order to illustrate the body changes according to age, and the analysis of some dimensions and body conformation indices. such as the BMI – according to sex, age and geographical area.

RESULTS ANALYSIS (FEMALE SERIES)

1. **The variability of some anthropometrical dimensions, involved in the design of ready-made clothes for women**, was studied as a result of the researches accomplished in 2004 in big urban centers (Tables 1-5).

Table 1

The dimensional variability of the Bucureşti female population

	Average	σ	Var.Q	Minimum	Maximum
Weight	63.96	13.39	20.93	37	119
1. Stature	1593.72	58.91	3.70	1420	1799
2. Waist height	971.25	47.26	4.87	858	1113
3. Trochanteric/hip height	823.41	55.35	6.72	695	983
4. Knee height	468.31	34.99	7.47	392	580
5. Trunk height (cervical point-gluteal curve)	654.10	33.14	5.07	560	757
6. Body rise (waist-gluteal curve)	265.46	26.81	10.10	175	342
7. Cervicale height (sitting)	634.39	50.73	8.00	420	910
8. Lateral malleolus height	63.46	8.61	13.57	40	87
12. Neck circumference (under hyoid bone)	341.35	28.81	8.44	270	430
13. Neck-base girth	390.54	36.23	9.28	310	540
14. Chest circumference I	909.78	93.96	10.33	720	1190
15. Chest circumference II	947.89	113.16	11.94	710	1370
16. Chest circumference III	829.91	110.64	13.33	625	1210
18. Waist circumference	804.46	133.41	16.58	590	1250
19. Hip girth	990.89	122.17	12.33	715	1415
20. Buttock circumference including the abdominal protrusion	1033.98	117.76	11.39	790	1400
21. Thigh circumference	607.44	65.03	10.70	430	840
22. Mid-thigh circumference	525.74	60.23	11.46	390	780
23. Knee circumference	387.97	36.91	9.51	310	550
24. Lower knee circumference	348.24	33.85	9.72	280	470
25. Calf circumference	363.73	36.26	9.97	270	510
26. Minimum calf circumference	231.83	20.26	8.74	180	300
27. Ankle circumference	258.43	19.08	7.38	205	320
28. Armscye circumference	412.39	48.40	11.74	320	590
29. Upper-arm circumference	290.17	42.00	14.47	185	480
30. Elbow circumference	284.79	32.63	11.46	215	420
31. Wrist circumference	163.47	17.39	10.64	125	260
33. Vertical trunk circumference	1579.21	111.51	7.06	1320	2030
34. Crotch length	686.75	73.52	10.70	490	945
35. Shoulder length	149.79	18.74	12.51	110	200
36. Arm length	319.93	28.20	8.81	175	450
37. Upper arm length	584.27	38.85	6.65	350	790
38. Cervical to wrist length (elbow bent)	777.25	43.55	5.60	485	890

(continues)

Table 1 (continued)

39. Cervical to brest point length	377.56	47.25	12.51	135	580
40. Cervical to waist (anterior) length	550.52	59.34	10.78	375	710
41. Neck shoulder point to waist length	464.79	57.39	12.35	340	660
42. Neck shoulder point to brest point length	290.00	36.50	12.59	180	430
43. Shoulder width	363.80	30.39	8.35	300	470
44. Back width	391.97	50.01	12.76	300	540
45. Under-arm length	446.01	31.41	7.04	370	560
46. Scye depth	172.93	18.71	10.82	125	240
47. Back waist length (cervical to waist)	417.16	37.21	8.92	320	510
48. Cervical to knee hollow	961.46	53.45	5.56	800	1120
49. Cervical to the standing surface length	1427.62	75.79	5.31	1031	1660
50. Waist to hip length	174.74	23.43	13.41	120	245
51. Outside leg length	918.83	74.68	8.13	580	1085
52. Thigh length	287.65	30.63	10.65	220	430
53. Inside leg length	705.52	48.53	6.88	440	875

Table 2

The dimensional variability of the Braşov female population

	Average	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	66.94	11.23	16.77	45	104
1. Stature	1596.22	60.55	3.79	1432	1780
2. Waist height	954.19	44.66	4.68	835	1095
3. Trochanteric/hip height	820.54	50.31	6.13	690	970
4. Knee height	435.14	34.61	7.95	330	540
5. Trunk height (cervical point-gluteal curve)	665.48	34.31	5.16	551	810
6. Body rise (waist-gluteal curve)	259.25	32.11	12.38	144	340
7. Cervicale height (sitting)	627.52	29.86	4.76	550	703
8. Lateral malleolus height	62.98	9.06	14.38	41	90
12. Neck circumference (under hyoid bone)	350.66	25.51	7.27	300	435
13. Neck-base girth	428.59	34.08	7.95	360	520
14. Chest circumference I	949.10	85.53	9.01	780	1245
15. Chest circumference II	986.97	100.07	10.14	820	1400
16. Chest circumference III	871.19	94.01	10.79	700	1230
18. Waist circumference	879.80	115.51	13.13	640	1290
19. Hip girth	1031.47	90.22	8.75	860	1320
20. Buttock circumference including the abdominal Protrusion	1053.67	103.74	9.85	860	1400
21. Thigh circumference	599.59	54.47	9.08	475	780
22. Mid-thigh circumference	510.10	43.48	8.52	405	640
23. Knee circumference	390.55	30.69	7.86	330	470
24. Lower knee circumference	349.27	26.55	7.60	300	435
25. Calf circumference	370.76	28.25	7.62	310	460
26. Minimum calf circumference	235.50	16.05	6.82	190	275
27. Ankle circumference	258.16	16.14	6.25	205	300
28. Armscye circumference	401.61	49.73	12.38	310	540
29. Upper-arm circumference	296.88	30.92	10.42	240	400

(continues)

Table 2 (continued)

30. Elbow circumference	300.39	29.17	9.71	250	385
31. Wrist circumference	169.97	10.78	6.34	145	210
33. Vertical trunk circumference	1648.74	103.08	6.25	1420	1950
34. Crotch length	720.85	79.96	11.09	550	1110
35. Shoulder length	123.06	13.98	11.36	90	160
36. Arm length	314.90	19.84	6.30	270	370
37. Upper arm length	574.15	30.43	5.30	500	650
38. Cervical to wrist length (elbow bent)	776.84	42.43	5.46	640	860
39. Cervical to brest point length	412.76	37.05	8.98	300	530
40. Cervical to waist (anterior) length	579.35	41.81	7.22	455	695
41. Neck shoulder point to waist length	465.95	43.50	9.34	310	600
42. Neck shoulder point to brest point length	303.13	38.12	12.58	225	500
43. Shoulder width	380.91	21.50	5.64	310	450
44. Back width	385.14	42.37	11.00	300	500
45. Under-arm length	446.87	29.23	6.54	370	540
46. Scye depth	170.07	20.67	12.16	110	240
47. Back waist length (cervical to waist)	425.82	31.79	7.47	330	550
48. Cervical to knee hollow	973.10	50.52	5.19	830	1110
49. Cervical to the standing surface length	1408.85	70.13	4.98	1200	1610
50. Waist to hip length	181.84	25.80	14.19	140	270
51. Outside leg length	988.88	49.53	5.01	830	1090
52. Thigh length	290.31	30.17	10.39	180	370
53. Inside leg length	705.41	39.26	5.57	600	820

Table 3

The dimensional variability of the Timişoara female population

	Average	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	62.31	12.41	19.92	42	91
1. Stature	1602.94	50.48	3.15	1467	1684
2. Waist height	991.58	42.92	4.33	875	1075
3. Trochanteric/hip height	838.58	37.89	4.52	760	915
4. Knee height	460.94	27.02	5.86	402	510
5. Trunk height (cervical point-gluteal curve)	640.50	23.94	3.74	592	695
6. Body rise (waist-gluteal curve)	272.36	26.75	9.82	219	345
7. Cervicale height (sitting)	619.92	29.33	4.73	534	676
8. Lateral malleolus height	57.69	9.37	16.23	42	82
12. Neck circumference (under hyoid bone)	328.89	22.87	6.95	290	375
13. Neck-base girth	376.58	25.75	6.84	325	460
14. Chest circumference I	891.94	80.05	8.97	770	1035
15. Chest circumference II	923.61	99.20	10.74	790	1100
16. Chest circumference III	804.17	91.22	11.34	655	1000
18. Waist circumference	785.42	113.42	14.44	595	1030
19. Hip girth	990.83	101.76	10.27	810	1210
21. Thigh circumference	591.39	63.03	10.66	480	715
20. Buttock circumference including the abdominal protrusion	1014.86	99.87	9.84	825	1220
22. Mid-thigh circumference	519.17	57.05	10.99	430	650

(continues)

Table 3 (continued)

23. Knee circumference	380.36	37.67	9.90	320	500
24. Lower knee circumference	339.72	29.57	8.70	280	400
25. Calf circumference	358.67	29.12	8.12	300	425
26. Minimum calf circumference	224.31	20.46	9.12	200	315
27. Ankle circumference	239.58	11.11	4.64	215	270
28. Armscye circumference	425.33	57.15	13.44	320	580
29. Upper-arm circumference	286.67	37.63	13.13	220	350
30. Elbow circumference	280.00	28.03	10.01	245	340
31. Wrist circumference	156.33	11.57	7.40	135	185
33. Vertical trunk circumference	1582.36	86.52	5.47	1410	1730
34. Crotch length	689.58	62.03	9.00	600	840
35. Shoulder length	134.92	13.63	10.10	100	160
36. Arm length	320.53	21.90	6.83	270	360
37. Upper arm length	580.78	28.23	4.86	520	620
38. Cervical to wrist length (elbow bent)	787.08	36.46	4.63	720	860
39. Cervical to brest point length	389.58	34.69	8.90	320	450
40. Cervical to waist (anterior) length	566.11	46.54	8.22	490	680
41. Neck shoulder point to waist length	465.97	46.61	10.00	305	570
42. Neck shoulder point to brest point length	298.19	40.41	13.55	240	420
43. Shoulder width	351.83	22.14	6.29	315	405
44. Back width	384.31	33.41	8.69	330	450
45. Under-arm length	431.14	23.99	5.56	365	470
46. Scye depth	164.44	31.57	19.20	110	240
47. Back waist length (cervical to waist)	413.06	26.44	6.40	365	460
48. Cervical to knee hollow	979.03	46.63	4.76	880	1070
49. Cervical to the standing surface length	1439.97	56.99	3.96	1292	1555
50. Waist to hip length	208.33	26.83	12.88	140	260
51. Outside leg length	1007.78	45.55	4.52	865	1110
52. Thigh length	306.11	24.53	8.01	260	380
53. Inside leg length	720.69	33.00	4.58	610	785

Table 4

The dimensional variability of the Constanța female population

	Average	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	55.40	8.21	14.82	39	77
1. Stature	1618.93	68.44	4.23	1461	1778
2. Waist height	1005.34	50.22	5.00	905	1116
3. Trochanteric/hip height	915.51	53.22	5.81	807	1026
4. Knee height	456.71	30.49	6.68	367	516
5. Trunk height (cervical point-gluteal curve)	642.92	45.95	7.15	422	749
6. Body rise (waist-gluteal curve)	280.77	28.94	10.31	216	366
7. Cervicale height (sitting)	620.53	31.87	5.14	534	693
8. Lateral malleolus height	58.65	6.60	11.26	44	75

(continues)

Table 4 (continued)

12. Neck circumference (under hyoid bone)	318.35	17.57	5.52	285	370
13. Neck-base girth	364.77	20.42	5.60	310	420
14. Chest circumference I	843.43	52.78	6.26	720	1010
15. Chest circumference II	864.24	61.70	7.14	715	1090
16. Chest circumference III	735.06	64.31	8.75	620	960
18. Waist circumference	684.26	69.04	10.09	545	950
19. Hip girth	870.85	63.30	7.27	735	1110
20. Buttock circumference including the abdominal protrusion	949.65	66.75	7.03	820	1140
21. Thigh circumference	576.69	48.68	8.44	460	705
22. Mid-thigh circumference	517.67	45.67	8.82	415	630
23. Knee circumference	368.00	26.46	7.19	315	455
24. Lower knee circumference	331.48	23.49	7.09	290	390
25. Calf circumference	340.31	25.49	7.49	285	400
26. Minimum calf circumference	222.03	16.72	7.53	190	260
27. Ankle circumference	243.66	16.38	6.72	205	280
28. Armscye circumference	397.59	36.63	9.21	320	530
29. Upper-arm circumference	262.85	29.64	11.28	185	355
30. Elbow circumference	270.16	22.74	8.42	220	325
31. Wrist circumference	153.71	14.62	9.51	130	245
33. Vertical trunk circumference	1519.15	76.66	5.05	1360	1730
34. Crotch length	651.34	60.07	9.22	530	870
35. Shoulder length	134.13	14.78	11.02	110	180
36. Arm length	331.74	20.04	6.04	265	390
37. Upper arm length	585.72	30.61	5.23	505	650
38. Cervical to wrist length (elbow bent)	773.90	38.40	4.96	625	840
39. Cervical to brest point length	345.24	23.68	6.86	300	410
40. Cervical to waist (anterior) length	535.87	40.77	7.61	440	680
41. Neck shoulder point to waist length	432.79	37.11	8.58	360	550
42. Neck shoulder point to brest point length	244.24	32.81	13.43	170	335
43. Shoulder width	348.35	29.10	8.35	310	566
44. Back width	341.35	28.78	8.42	285	420
45. Under-arm length	446.62	27.21	6.09	340	500
46. Scye depth	159.30	26.44	16.60	110	210
47. Back waist length (cervical to waist)	405.70	27.19	6.70	350	480
48. Cervical to knee hollow	970.41	48.91	5.04	870	1090
49. Cervical to the standing surface length	1427.12	69.87	4.90	1270	1602
50. Waist to hip length	136.63	18.79	13.76	100	230
51. Outside leg length	972.87	64.91	6.67	802	1100
52. Thigh length	310.47	21.61	6.96	230	350
53. Inside leg length	735.41	41.25	5.61	650	820

Table 5

The dimensional variability of the Romanian female population

	Average	σ	Var.Q	Minimum	Maximum
Weight	63 24	12 38	19 58	37	119
1 Stature	1600 00	60 61	3 79	1420	1799
2 Waist height	973 24	50 09	5 15	825	1116
3 Trochanteric/hip height	839 20	62 56	7 45	690	1026
4 Knee height	456 39	36 16	7 92	330	580
5 Trunk height (cervical point-gluteal curve)	654 91	36 28	5 54	422	810
6 Body rise (waist-gluteal curve)	266 56	29 71	11 15	144	366
7 Cervicale height (sitting)	629 77	42 16	6 69	420	910
8 Lateral malleolus height	62 11	8 82	14 20	40	90
12 Neck circumference (under hyoid bone)	339 57	27 99	8 24	270	435
13 Neck-base girth	397 87	40 38	10 15	310	540
14 Chest circumference I	908 87	90 81	9 99	720	1245
15 Chest circumference II	943 10	107 60	11 41	710	1400
16 Chest circumference III	824 66	106 56	12 92	620	1230
18 Waist circumference	806 93	133 68	16 57	545	1290
19 Hip girth	982 47	115 13	11 72	715	1415
20 Buttock circumference including the abdominal protrusion	1024 44	110 20	10 76	790	1400
21 Thigh circumference	598 35	60 38	10 09	430	840
22 Mid-thigh circumference	518 07	53 00	10 23	390	780
23 Knee circumference	384 81	34 34	8 92	310	550
24 Lower knee circumference	344 88	30 29	8 78	280	470
25 Calf circumference	361 19	33 39	9 24	255	510
26 Minimum calf circumference	230 65	18 85	8 17	180	315
27 Ankle circumference	254 31	18 36	7 22	205	320
28 Armscye circumference	406 65	48 15	11 84	310	590
29 Upper-arm circumference	287 60	38 41	13 35	185	480
30 Elbow circumference	287 61	32 17	11 18	215	420
31 Wrist circumference	163 48	15 71	9 61	125	260
33 Vertical trunk circumference	1591 73	111 02	6 97	1320	2030
34 Crotch length	691 01	75 42	10 91	490	1110
35 Shoulder length	137 17	20 13	14 68	90	200
36 Arm length	320 65	24 35	7 59	175	450
37 Upper arm length	581 81	34 38	5 91	350	790
38 Cervical to wrist length (elbow bent)	777 62	41 47	5 33	485	890
39 Cervical to brest point length	384 35	45 93	11 95	135	580
40 Cervical to waist (anterior) length	559 72	53 55	9 57	375	710
41 Neck shoulder point to waist length	460 60	50 87	11 05	305	660
42 Neck shoulder point to brest point length	286 59	41 52	14 49	170	500
43 Shoulder width	365 95	29 57	8 08	300	566
44 Back width	381 30	47 64	12 49	285	540
45 Under-arm length	445 38	29 65	6 66	340	560
46 Scye depth	169 03	22 46	13 29	110	240
47 Back waist length (cervical to waist)	417 46	33 55	8 04	320	550

(continues)

Table 5 (continued)

48. Cervical to knee hollow	967.91	51.28	5.30	800	1120
49. Cervical to the standing surface length	1423.45	71.70	5.04	1031	1660
50. Waist to hip length	172.94	30.45	17.60	100	270
51. Outside leg length	958.14	72.14	7.53	580	1110
52. Thigh length	294.33	30.07	10.22	180	430
53. Inside leg length	712.41	44.64	6.27	440	875

The 53 collected dimensions will make the anthropometrical basis for the creation of new clothes patterns, on the one hand, and, on the other hand, a multifunctional database to be applied to other domains as well.

2. **The variability of the anthropometrical dimensions in time and space comes to prove the necessity of updating the researches of applied anthropology.**

The variability in time of the population's anthropological structure corresponds to the microevolutive changes of secular trend type.

Thus, we studied the variability in time of some body dimensions and of the anthropological body mass index (BMI) in order to highlight the global trends of the body changes.

As regards the Romanian female population, the researches accomplished in the year 2004 indicated, compared with the ones performed in the year 1980, a significant decrease of the weight, thorax perimeter and waist circumference.

As regards the Bucureşti female population, an increase of the average values of the weight, thorax and waist circumferences was recorded. The average value of height increased.

Concerning the Braşov female population, the stature remained within the same limits, weight increased considerably and, correlatively, thorax and waist circumferences also increased.

As to the Timişoara female population, the average values for weight, stature, thorax and waist circumferences increased.

Regarding the Constanţa female population, weight decreased significantly, while height, thorax and waist circumferences increased notably.

These results stress the fact that microevolutive phenomena can manifest in a differentiated way, according to the geographical v... bility of a population as well.

3. **The variability of the body mass according to age in the Romanian female population.** We considered useful a comparative analysis of the age-related variability in the Romanian female population studied in 2004 and in 1980, in order to emphasize one of the mechanisms of the "secular trend" phenomenon, of relevance for the body changes tendencies (Tables 8, 9, 10).

In the 17 to 24 years old age group we recorded relativly similar values of the height and weight, while in the female population studied in the year 2004 the average value of thorax perimeter slighly increases and the average value of the waist circumferance decreases significantly.

Table 6

The anthropometrical variability by time and space of some body dimensions in the Romanian female population

Romania 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	60 95	9 56	107	35	107
Vertex point to the standing surface	1599 18	58 87	3 68	1418	1780
Thorax circumference	887 45	75 97	8 56	610	1670
Waist circumference	772 64	88 85	11 50	540	1200
România 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	63 24	12 38	19 58	37	119
Vertex point to the standing surface	1600 00	60 61	3 79	1420	1799
Thorax circumference	943 10	107 60	11 41	710	1400
Waist circumference	806 93	133 68	16 57	545	1290

Bucureşti 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	63 96	13 39	20 93	37	119
Vertex point to the standing surface	1593 72	58 91	3 70	1420	1799
Thorax circumference	971 25	47 26	4 87	858	1113
Waist circumference	823 41	55 35	6 72	695	983
Bucureşti 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	60 80	9 97	16 39	40	110
Vertex point to the standing surface	1608 04	60 36	3 75	1340	1877
Thorax circumference	877 00	80 24	9 15	620	1290
Waist circumference	758 65	95 50	12 59	520	1660

Braşov 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	66 94	11 23	16 77	45	104
Vertex point to the standing surface	1596 22	60 55	3 79	1432	1780
Thorax circumference	954 19	44 66	4 68	835	1095
Waist circumference	820 54	50 31	6 13	690	970
Braşov 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	61 26	8 96	14 63	45	90
Vertex point to the standing surface	1596 99	59 03	3 70	1420	1756
Thorax circumference	784 94	91 03	11 60	590	1100
Waist circumference	744 80	42 76	5 74	618	871

Timişoara 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	62 31	12 41	19 92	42	91
Vertex point to the standing surface	1602 94	50 48	3 15	1467	1684
Thorax circumference	991 58	42 92	4 33	875	1075
Waist circumference	838 58	37 89	4 52	760	915
Banat 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	59 28	10 86	18 33	39	100
Vertex point to the standing surface	1565 03	52 16	3 33	1397	1720
Thorax circumference	878 36	85 72	9 76	660	1250
Waist circumference	764 71	97 35	12 73	560	1180
Constanta 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	55 40	8 21	14 82	39	77
Vertex point to the standing surface	1618 93	68 44	4 23	1461	1778
Thorax circumference	1005 34	50 22	5 00	905	1116

(continues)

Table 6 (continued)

Waist circumference	915.51	53.22	5.81	807	1026
Constanța 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	61.57	9.52	15.47	41	104
Vertex point to the standing surface	1597.39	53.77	3.37	1463	1828
Thorax circumference	875.04	70.61	8.07	730	1110
Waist circumference	744.50	85.23	11.45	590	1190

Table 7

Age-related variability of the main body dimensions in the Romanian female population, in the year 1980

DIMENSIONS					
Total	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	60.95	9.56	107	35	107
Vertex point to the standing surface	1599.18	58.87	3.68	1418	1780
Thorax circumference	887.45	75.97	8.56	610	1670
Waist circumference	772.64	88.85	11.50	540	1200
DIMENSIONS					
Age 17-24	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	56.56	7.58	13.40	35	103
Vertex point to the standing surface	1601.54	58.09	3.63	1420	1773
Thorax circumference	846.02	59.46	7.03	630	1130
Waist circumference	721.65	67.81	9.40	550	1080
DIMENSIONS					
Age 25-29	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	58.39	8.31	14.23	39	104
Vertex point to the standing surface	1602.65	57.61	3.59	1427	1772
Thorax circumference	863.12	63.01	7.30	660	1120
Waist circumference	744.80	69.84	9.38	580	1050
DIMENSIONS					
Age 30-34	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	60.77	9.15	15.06	41	107
Vertex point to the standing surface	1605.07	56.67	3.53	1418	1780
Thorax circumference	885.18	73.42	8.29	610	1670
Waist circumference	767.32	80.19	10.45	540	1200
DIMENSIONS					
Age 35-39	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	62.75	9.45	15.06	40	105
Vertex point to the standing surface	1601.32	59.96	3.74	1424	1767
Thorax circumference	906.66	68.49	7.55	730	1200
Waist circumference	790.49	81.42	10.30	610	1130

(continues)

Table 7 (continued)

DIMENSIONS					
Age 40-44	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	64.69	9.67	14.95	42	104
Vertex point to the standing surface	1598.08	60.05	3.76	1440	1756
Thorax circumference	918.07	73.23	7.98	639	1140
Waist circumference	809.26	87.23	10.78	610	1200
DIMENSIONS					
Age 45-49	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	64.83	9.70	14.96	45	98
Vertex point to the standing surface	1586.16	56.51	3.56	1444	1770
Thorax circumference	927.12	77.13	8.32	700	1500
Waist circumference	824.12	89.07	10.81	610	1120
DIMENSIONS					
Age 50-54	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	67.21	11.07	16.47	42	102
Vertex point to the standing surface	1577.21	63.41	4.02	1420	1741
Thorax circumference	948.55	86.03	9.07	730	1210
Waist circumference	859.13	106.24	12.37	620	1180
DIMENSIONS					
Age >55	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	65.09	10.39	15.96	44	94
Vertex point to the standing surface	1578.75	68.46	4.34	1450	1699
Thorax circumference	930.36	75.24	8.09	820	1110
Waist circumference	848.66	100.45	11.84	690	1110

Table 8

Age-related variability of the main body dimensions in the Romanian female population, in the year 2004

DIMENSIONS					
Total	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	63.24	12.38	19.58	37	119
Vertex point to the standing surface	1600.00	60.61	3.79	1420	1799
Thorax circumference	943.10	107.60	11.41	710	1400
Waist circumference	806.93	133.68	16.57	545	1290
DIMENSIONS					
Age 17-19	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	55.07	8.01	14.54	37	68
Vertex point to the standing surface	1626.07	74.36	4.57	1451	1778
Thorax circumference	858.50	59.44	6.92	715	1000
Waist circumference	679.83	60.26	8.86	545	800

(continues)

Table 8 (continued)

DIMENSIONS					
Age 20-24	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	55.77	10.05	18.02	37	104
Vertex point to the standing surface	1608.29	69.06	4.29	1420	1765
Thorax circumference	871.94	77.46	8.88	710	1250
Waist circumference	696.95	81.78	11.73	585	1070

DIMENSIONS					
Age 25-29	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	59.60	10.93	18.34	42	85
Vertex point to the standing surface	1606.90	59.78	3.72	1480	1799
Thorax circumference	907.65	88.06	9.70	780	1180
Waist circumference	755.10	115.91	15.35	595	1090

DIMENSIONS					
Age 30-34	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	60.75	9.60	15.80	39	79
Vertex point to the standing surface	1604.29	56.61	3.53	1490	1780
Thorax circumference	913.93	80.48	8.81	770	1090
Waist circumference	765.71	92.26	12.05	590	920

DIMENSIONS					
Age 35-39	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	65.51	11.96	18.26	43	119
Vertex point to the standing surface	1602.08	54.99	3.43	1487	1730
Thorax circumference	962.39	103.88	10.79	760	1370
Waist circumference	841.27	121.79	14.48	635	1250

DIMENSIONS					
Age 40-44	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	68.59	12.62	18.41	45	99
Vertex point to the standing surface	1596.19	53.21	3.33	1432	1760
Thorax circumference	993.48	104.22	10.49	820	1300
Waist circumference	878.12	115.21	13.12	665	1170

DIMENSIONS					
Age 45-49	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	68.69	12.26	17.84	44	104
Vertex point to the standing surface	1582.33	56.18	3.55	1467	1687
Waist circumference	889.85	123.21	13.85	650	1290
Thorax circumference	1000.21	104.98	10.50	770	1400

(continues)

Table 8 (continued)

DIMENSIONS					
Age 50-54	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	67.50	11.01	16.32	50	95
Vertex point to the standing surface	1591.59	56.51	3.55	1487	1690
Thorax circumference	981.15	94.15	9.60	795	1160
Waist circumference	870.90	106.67	12.25	650	1070

DIMENSIONS					
Age >55	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	66.75	10.85	16.25	55	90
Vertex point to the standing surface	1604.00	50 29	3 14	1519	1666
Thorax circumference	995.00	128.19	12 88	800	1210
Waist circumference	894.58	109.22	12.21	710	1060

The same tendencies we recorded in the population aged 25-29 and 30-34.

In the population aged 35-39, studied in the year 2004, we notice a major increase of the weight and, correlatively, the thorax and waist circumferences also increased, indicating a clear tendency of body changing in the female population.

At the age 40-44, these tendencies of body changing follow the same scheme, with a significant increase of the weight and the thorax and waist circumferences.

At the age 45-49, we notice an acceleration of the body changes and a differentiation of the body structure in the female population studied in 2004, in comparison with the one studied in 1980.

After the age of 50, the differences regarding the body mass of the two populations studied in an interval of 24 years are maintained.

We can conclude that microevolutive changes of the body mass occur around the age of 35-39 years (Figs. 1, 2).

4. **The variability of the body mass or Quetelet index.** The body mass index (B.M.I.) is a synthetic indicator of the body conformation, preferred by the WHO in the researches on populations.

The B.M.I. highlights the correlation between weight and height, in a standard formula in which an individual or a population body mass can be assessed on a scale of classification that delimits the categories of underweight (B.M.I < 18.49), normality (B.M.I between 18.50 and 24.99), and overweight (B.M.I > 25.00).

If we analyze the age-related evolution of the normality category regarding the BMI, comparing the populations studied in 1980 and 2004, we observe a significant differentiation in almost every age group (Tables 9, 10).

Thus it can be noticed that the number of "normal" subjects (as regards the body mass) decreases according to age in both studied populations (from 81.11% for the 20 to 24 years old age group to 34.85% for the 50 to 54 years old age group studied in 1980 and from 72.82% for the 20 to 24 years old age group to 30.77% for the 50 to 54 years old age group studied in 2004).

Table 9

BMI variability by age groups in the urban female series, in the year 1980

Categories		age 20-24		age 25-29		age 30-34		age 35-39		age 40-44		age 45-49		age 50-54		age >55	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
underweight	< 16	0	0.00	1	0.09	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	16-16 99	8	0.94	8	0.70	4	0.32	1	0.12	0	0.00	1	0.18	0	0.00	0	0.00
	17-18.49	40	4.72	46	4 04	20	1.62	8	0.99	8	1.12	1	0.18	2	0.65	1	1.89
Total		**48**	**5.67**	**55**	**4.82**	**24**	**1.95**	**9**	**1.11**	**8**	**1.12**	**2**	**0.36**	**2**	**0.65**	**1**	**1.89**
normality	**18.50-24.99**	**687**	**81.11**	**865**	**75.88**	**866**	**70.29**	**491**	**60.62**	**368**	**51.69**	**252**	**45.08**	**107**	**34.85**	**22**	**41.51**
overweight	25-29.99	103	12.16	199	17.46	284	23.05	250	30.86	255	35.81	227	40.61	130	42.35	20	37.74
	30-39.99	8	0.94	21	1.84	56	4.55	59	7.28	80	11.24	77	13.77	65	21.17	10	18.87
	> 40	1	0.12	0	0.00	2	0.16	1	0.12	1	0.14	1	0.18	3	0.98	0	0.00
Total		**112**	**13.22**	**220**	**19.30**	**342**	**27.76**	**310**	**38.27**	**336**	**47.19**	**305**	**54.56**	**198**	**64.50**	**30**	**56.60**
Total		***847***	***100***	***1140***	***100***	***1232***	***100***	***810***	***100***	***712***	***100***	***559***	***100***	***307***	***100***	***53***	***100***

Table 10

BMI variabi y in the Quetelet scale of classification in the urban female population, in the year 2004

Categorii		age 18-19		age 20-24		age 25-29		age 30-34		age 35-39		age 40-44		age 45-49		age 50-54		age >55	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
underweight	< 16	0	0.00	1	0.97	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	16-16.99	1	3.33	1	0.97	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	17-18.49	2	6.67	14	13.59	5	9.80	2	7.14	2	2.82	0	0.00	0	0.00	0	0.00	0	0.00
Total		**3**	**10.00**	**16**	**15.53**	**5**	**9.80**	**2**	**7.14**	**2**	**2.82**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**
normality	**18.50-24.99**	**26**	**86.67**	**75**	**72.82**	**33**	**64.71**	**15**	**53.57**	**32**	**45.07**	**26**	**37.68**	**36**	**37.11**	**12**	**30.77**	**7**	**58.33**
overweight	25-29.99	1	3.33	10	9.71	7	13.73	10	35.71	28	39.44	25	36.23	40	41.24	21	53.85	3	25.00
	30-39.99	0	0.00	1	0.97	6	11.76	1	3.57	8	11.27	18	26.09	19	19.59	6	15.38	2	16.67
	> 40	0	0.00	1	0.97	0	0.00	0	0.00	1	1.41	0	0.00	2	2.06	0	0.00	0	0.00
Total		1	3.33	12	11.65	13	25.49	11	39 29	37	52.11	43	62.32	61	62.89	27	69.23	5	41.67
Total		***30***	***100***	***103***	***100***	***51***	***100***	***28***	***100***	***71***	***100***	***69***	***100***	***97***	***100***	***39***	***100***	***12***	***100***

Table 11

Correlation matrix of variables – entire sample (2004)

Variables	Age	Waist Circ.	Buttock Circ.	Weight	Height	B.M.I.
Age	1.00	0.36**	0.25*	0.25*	-0.14	0.38**
Waist Circ.		1.00	0.67***	0.73***	0.25*	0.70***
Buttock Circ.			1.00	0.56**	0.09	0.62***
Weight				1.00	0.52**	0.85***
Height					1.00	0.00
B.M.I.						1.00

Table 12

Correlation matrix of variables – female sample (2004)

Variables	Age	Waist Circ.	Buttock Circ.	Weight	Height	B.M.I.
Age	1.00	0.42**	0.34**	0.34**	-0.17	0.41**
Waist Circ.		1.00	0.74***	0.74***	0.03	0.75***
Buttock Circ.			1.00	0.74***	0.10	0.72***
Weight				1.00	0.28*	0.92***
Height					1.00	-0.12
B.M.I.						1.00

* = significant (p-value < 0,05)
** = very significant (p-value < 0,01)
*** = highly significant (p-value < 0,001)
B.M.I. – body mass index

What is noteworthy is that in the population studied in 2004, the number of "normal" subjects as regards the body mass is significantly smaller for the same age group than in the population studied 24 years ago.

If almost half of female population studied in 1980 (51.69%) can be placed in the category of "normality" as regards the 40 to 44 years old age group, more than half of the population studied in 2004 can be placed in the same category of "normality" as regards the 30 to 34 years old age group. This indicates that, in a period of 24 years, the microevolutive body changes are pointed out not only by the differentiated values of the body dimensions but also by age.

In fact, our paper underlines the necessity of taking into account the design of the clothes patterns not only the partial, multiple dimensions corresponding to different body segments, but also the global tendencies of the body mass in time and space.

Comparing the data collected in 1980 and 2004, a difference of ten years can be noticed as regards the age when the number of the "normal" subjects represents almost half of the population.

Regarding the number of overweight variants, it varies between 13.22% and 64.50% for the 20 to 24 and the 50 to 54 years old age groups in the female population studied in 1980, and between 11.65% and 69.23% for the female population studied in 2004 (Figs. 1, 2).

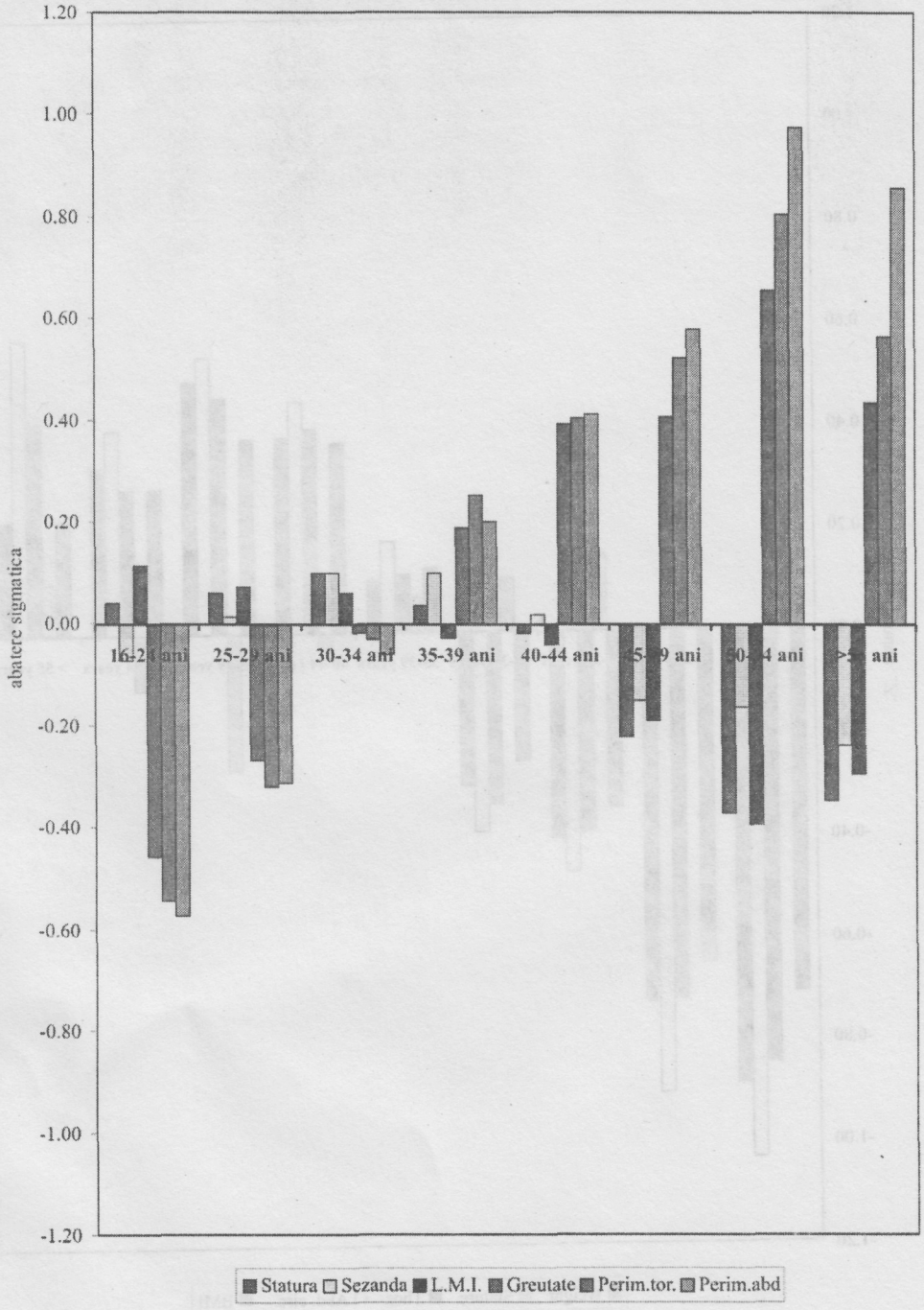

Fig. 1 – Age-related variability of the main body dimensions in the Romanian female population, in the year 1980.

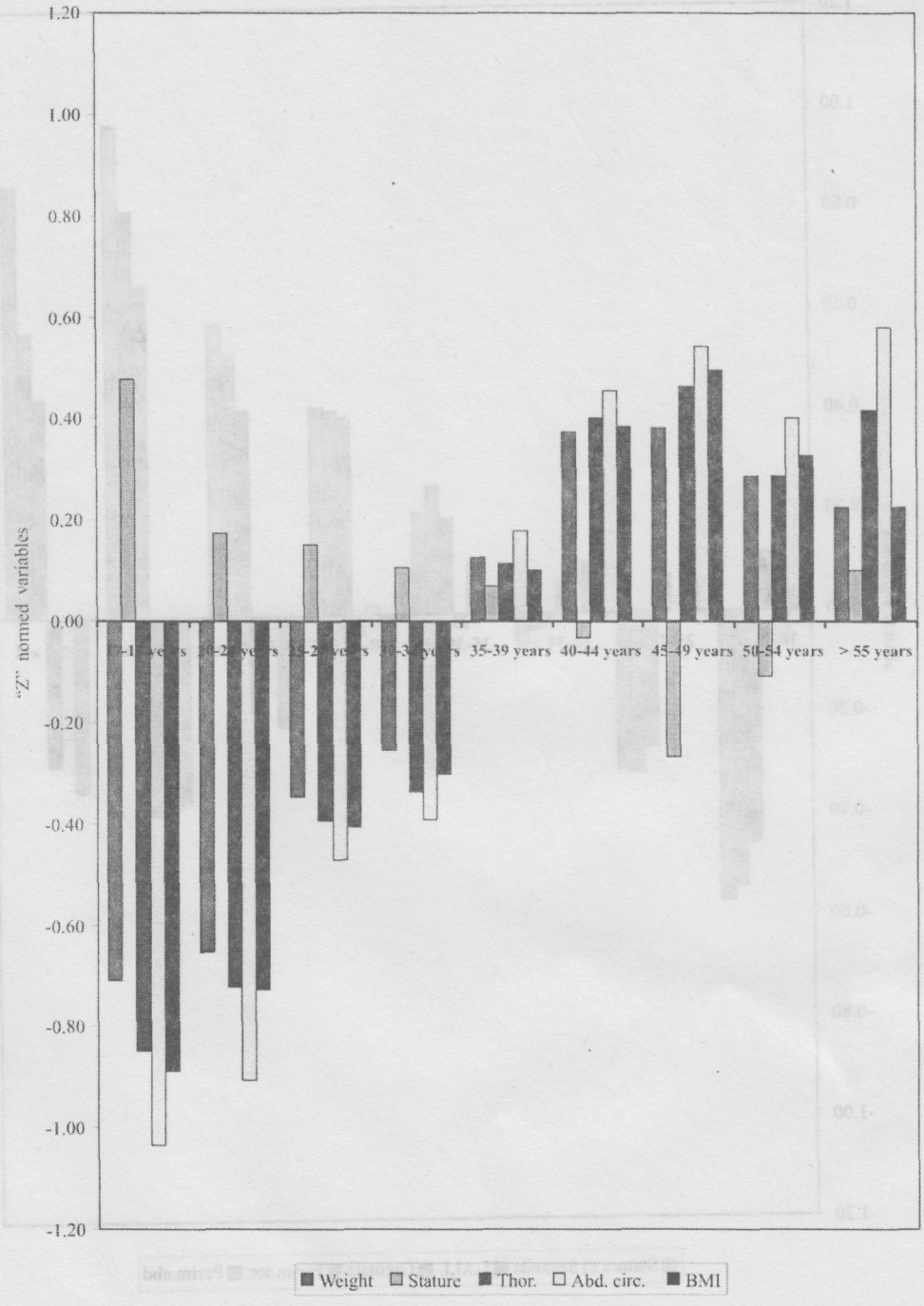

Fig. 2 – Age-related variability of the main body dimensions in the Romanian female population, in the year 2004.

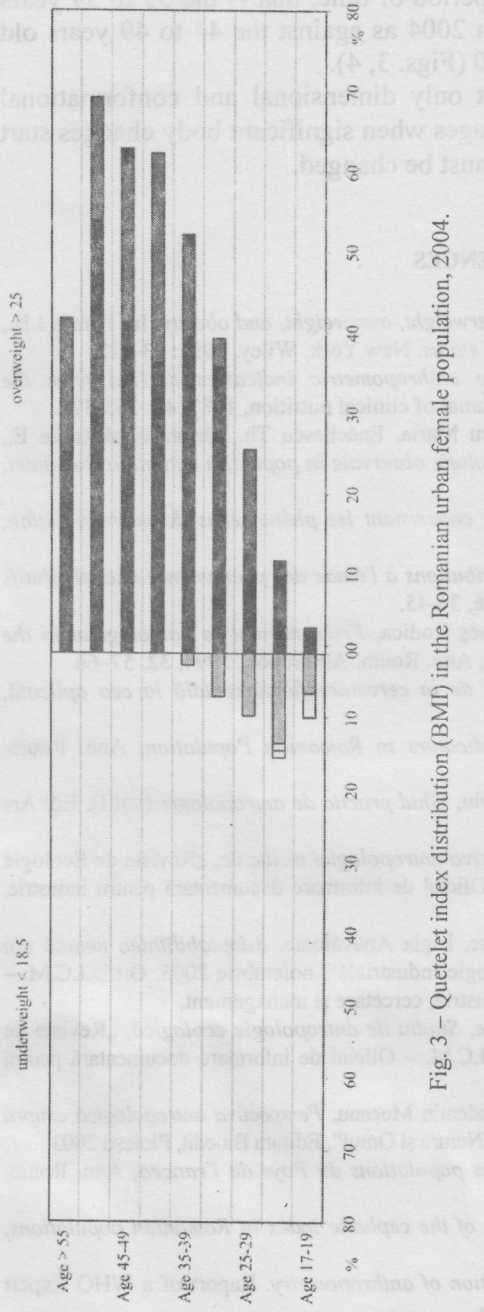

Fig. 3 – Quetelet index distribution (BMI) in the Romanian urban female population, 2004.

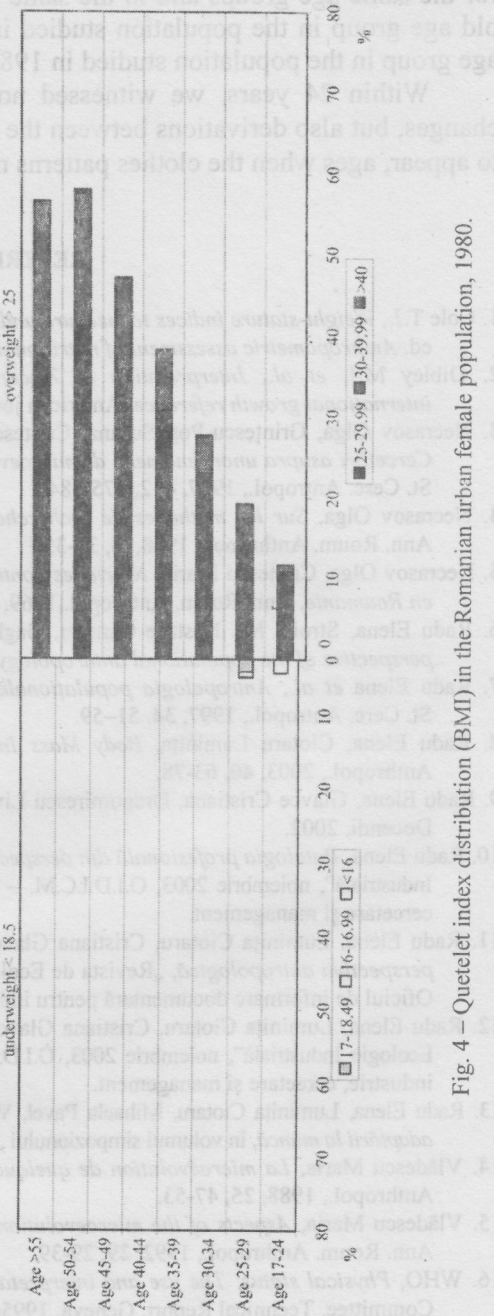

Fig. 4 – Quetelet index distribution (BMI) in the Romanian urban female population, 1980.

The analysis of the overweight variability according to age completes the picture of "normality" variability, bringing to light the fact that the decrease of the normal subjects' number is generated by the increase of the overweight variants,

for the same age groups and in the same period of time, that is the 35 to 39 years old age group in the population studied in 2004 as against the 44 to 49 years old age group in the population studied in 1980 (Figs. 3, 4).

Within 24 years, we witnessed not only dimensional and conformational changes, but also derivations between the ages when significant body changes start to appear, ages when the clothes patterns must be changed.

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UPDATE OF THE ROMANIAN ANTHROPOLOGICAL CONTRIBUTION TO THE LIGHT INDUSTRY AREA

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The anthropometrical dimensions of a population displays a time-related variability along many generations. This variability is due both to the changes of the same individual during his life (ontogenetic changes) and to the microevolution process from a generation to another. The ontogenetic changes involve the decrease of the individual vertical body dimensions (stature, leg length), after the age of 40, due to the subsidence of the vertebral column and collapse of the foot vault. The microevolutive changes are generated by the acceleration phenomenon reflected in the increase of the vertical dimensions from one generation to another and produce changes in the individual, hence populational dimensional ratios. These changes lead to alterations of the constitution typology, which are reflected in the clothes sizes, a fact that requires periodical reviews of the measures that constitute their basis.

INTRODUCTION

The luxury of not resorting to clothes is lost in the human prehistory; nowadays only some thousands out of the six billion of Terra's inhabitants keep this "privilege" due to the environmental conditions and the type of culture that characterizes them.

As the second skin, clothes must fit human measures in order to fulfill their protective role against the environment conditions and to assure optimal body function as well.

By means of ergonomic measurements, the huge variability of body dimensions is grouped in sizes that permit, for a group of individuals with certain dimensional traits, a comfort state as high as possible, while maintaining the product's reliability.

The anthropometrical dimensions have the tendency to be altered from one generation to another, as a result of the genetic patrimony and the specific socio-economic and cultural conditions of the individual within a given population, too. The specificity of the dimensional variability and the ratio between them during the ontogenetic evolution must be also taken into consideration.

Each population has a dominant tendency regarding its main changes in the body dimensions and the ratios between them. In this context, knowledge of the

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changes in the individual variability within each ontological period according to sex and interest field is required, involving new studies concerning the body measures.

At the world level certain periods are settled for resuming these studies. Thus, in the growing and development spheres, inclusively in Romania, national surveys concerning the dimensional changes are performed every seven years.

MATERIAL AND METHOD

According to an anthropometrical record, elaborated on valid/operative standards, a segment of population, men and women, aged 20-60 years, from five areas – Banat (Timişoara), Transilvania (Braşov), Moldova (Bacău), Dobrogea (Constanţa) and Muntenia (Bucureşti) – was measured. The collected data included 53 measures and 15 identification items for each individual.

Using the same database, the team from the Anthropological Research Center established samples according to the subjects' geographical origin area. Statistical and mathematical indicators, which allow an anthropological assessment both of each sample and a general one at the country level, were processed. This approach permits variability evaluation for each measure by geographical area and also for the entire country.

The homogeneity degree of the sample for a given measure is represented by the value of the variability coefficient for that dimension. Low values of the variability coefficient (between 1-10%) indicate a very homogeneous sample for that dimension. The recorded minimum and maximum values of the measure are included in the sigmatic scale that indicates the statistical normality for the respective parameter.

Values of the variability coefficient ranging from 10% to 20% point out a relatively homogeneous sample. In the analysis of the anthropometrical data, the values of the variability coefficient higher than 10% are regarded as representative for circumferences and weight, considering the large variability of these parameters in accordance with the individual physiological factors generated by the life conditions and style. The values of the variability coefficient above 20% indicate a heterogeneous group of individuals that can not be considered a homogeneous sample; subsequent analysis is performed of the dimensions of the individuals exceeding the normality limits for that sample (average ± 3 standard deviations) and who constitute particular cases, to be included in other categories of population.

DATA ANALYSIS (MALE SERIES)

1. **Stature.** The values of the individual anthropometrical parameters of this dimension, correspond to very homogeneous samples for each group and the general representative one (at country level). The most accentuated variations were found in Bacău, and the closest values in the Timişoara group.

In order to check whether the height variability indicated by our survey corresponds to the one of the large population groups from the studied areas, we resorted to a comparative analysis of this parameter based on the existing database at the Anthropological Research Center (17,000 males, aged 20-60 years).

Thus, even if the studied groups are numerically modest, we found that they cover the normal variability in the adult male population (aged 20-60 years) both according to geographical areas and at the entire country level.

2. **Body heights and circumferences.** Considering the significant correlation between stature and different heights and lengths of the body segments, our findings ressemble much the ones regarding stature. The samples by geographical areas and at the country level show a high homogeneity; therefore they cover the dimensional variability for the following measures included in the record: waist height (2), trochanteric/hip height (3), knee height (4), trunk height *i e* , cervical point-gluteal curve (5), shoulder length (35), cervical to wrist length, elbow bent (38), cervical to brest point length (39), cervical to waist (anterior) length (40), neck shoulder point to waist length (41), back waist length, cervical point to waist (47), cervical to knee hollow (48), cervical to the standing surface length (49), inside leg length (53).

Table 1

The dimensional variability of the Bucureşti male population

	Average	σ	Var.Q	Minimum	Maximum
Weight	80 13	14 24	17 77	51 00	135 00
1 Stature	1726 96	66 01	3 82	1571 00	1895 00
2 Waist height	1026 46	59 71	5 82	879 00	1180 00
3 Trochanteric/hip height	909 41	75 95	8 35	692 00	1117 00
4 Knee height	490 29	38 74	7 90	401 00	621 00
5 Trunk height (cervical point-gluteal curve)	713 26	38 77	5 44	600 00	855 00
6 Body rise (waist-gluteal curve)	257 00	34 86	13 56	170 00	419 00
7 Cervicale height (sitting)	691 40	83 79	12 12	535 00	961 00
8 Lateral malleolus height	68 71	7 65	11 13	52 00	89 00
12 Neck circumference (under hyoid bone)	395 99	30 62	7 73	330 00	495 00
13 Neck-base girth	453 35	41 76	9 21	370 00	600 00
14 Chest circumference I	1043 13	90 65	8 69	820 00	1370 00
15 Chest circumference II	1012 80	117 07	11 56	230 00	1340 00
16 Chest crcumference III	956 95	138 18	14 44	10 00	1290 00
18 Waist circumference	970 85	112 72	11 61	680 00	1350 00
19 Hip girth	1033 97	83 72	8 10	830 00	1345 00

(continues)

Table 1 (continued)

20 Buttock circumference including the abdominal protrusion	1086 43	104 03	9 58	885 00	1450 00
21 Thigh circumference	596 21	57 83	9 70	435 00	860 00
22 Mid-thigh circumference	510 22	51 68	10 13	410 00	680 00
23 Knee circumference	400 88	31 33	7 81	320 00	515 00
24 Lower knee circumference	361 18	25 18	6 97	310 00	450 00
25 Calf circumference	380 74	31 78	8 35	310 00	495 00
26 Minimum calf circumference	243 81	17 89	7 34	210 00	310 00
27 Ankle circumference	275 11	18 84	6 85	230 00	350 00
28 Armscye circumference	457 65	50 14	10 96	360 00	610 00
29 Upper-arm circumference	314 89	31 84	10 11	235 00	410 00
30 Elbow circumference	328 85	35 19	10 70	170 00	420 00
31 Wrist circumference	184 78	16 08	8 70	140 00	230 00
33 Vertical trunk circumference	1795 48	116 85	6 51	1180 00	2180 00
34 Crotch length	751 60	61 71	8 21	610 00	945 00
35 Shoulder length	156 91	25 63	16 34	110 00	350 00
36 Arm length	357 83	36 61	10 23	285 00	540 00
37 Upper arm length	647 92	47 82	7 38	520 00	850 00
38 Cervical to wrist length (elbow bent)	863 90	43 04	4 98	770 00	1000 00
39 Cervical to brest point length	378 79	42 00	11 09	280 00	500 00
40 Cervical to waist (anterior) length	658 93	56 47	8 57	530 00	810 00
41 Neck shoulder point to waist length	542 98	44 22	8 14	440 00	660 00
42 Neck shoulder point to brest point length	267 17	25 49	9 54	210 00	340 00
43 Shoulder width	414 05	32 37	7 82	340 00	520 00
44 Back width	430 85	44 35	10 29	320 00	620 00
45 Under-arm length	482 39	31 01	6 43	390 00	565 00
46 Scye depth	177 02	29 30	16 55	120 00	230 00
47 Back waist length (cervical to waist)	489 71	33 61	6 86	410 00	570 00
48 Cervical to knee hollow	1079 96	58 92	5 46	920 00	1250 00
49 Cervical to the standing surface length	1568 35	83 41	5 32	1357 00	1790 00
50 Waist to hip length	155 55	34 56	22 22	100 00	245 00
51 Outside leg length	1029 08	61 51	5 98	720 00	1185 00
52 Thigh length	330 00	30 51	9 24	265 00	460 00
53 Inside leg length	764 34	43 34	5 67	670 00	890 00

Table 2

The dimensional variability of the Braşov male population

	Average	σ	Var.Q	Minimum	Maximum
Weight	74 87	13 99	18 69	50 00	110 00
1 Stature	1700 20	61 73	3 63	1580 00	1905 00
2 Waist height	988 72	44 19	4 47	890 00	1105 00
3 Trochanteric/hip height	868 23	44 18	5 09	735 00	968 00
4 Knee height	478 28	29 67	6 20	420 00	557 00
5 Trunk height (cervical point-gluteal curve)	703 89	36 56	5 19	623 00	830 00
6 Body rise (waist-gluteal curve)	232 46	30 00	12 91	150 00	292 00
7 Cervicale height (sitting)	664 72	38 46	5 79	580 00	786 00
8 Lateral malleolus height	68 99	8 95	12 97	50 00	95 00
12 Neck circumference (under hyoid bone)	398 44	37 20	9 34	340 00	510 00
13 Neck-base girth	475 77	43 02	9 04	410 00	600 00
14 Chest circumference I	1019 86	96 52	9 46	830 00	1220 00
15 Chest circumference II	995 85	102 55	10 30	800 00	1290 00
16 Chest circumference III	952 68	102 05	10 71	770 00	1160 00
18 Waist circumference	960 34	130 23	13 56	680 00	1254 00
19 Hip girth	1005 49	77 78	7 74	820 00	1165 00
20 Buttock circumference including the abdominal protrusion	1052 32	113 16	10 75	820 00	1300 00
21 Thigh circumference	566 27	57 61	10 17	425 00	690 00
22 Mid-thigh circumference	479 15	46 59	9 72	385 00	595 00
23 Knee circumference	387 54	25 34	6 54	330 00	465 00
24 Lower knee circumference	352 68	24 08	6 83	300 00	410 00
25 Calf circumference	375 56	35 10	9 35	270 00	460 00
26 Minimum calf circumference	245 80	18 31	7 45	195 00	280 00
27 Ankle circumference	273 66	17 15	6 27	230 00	310 00
28 Armscye circumference	452 54	59 86	13 23	340 00	620 00
29 Upper-arm circumference	312 61	41 26	13 20	250 00	530 00
30 Elbow circumference	330 42	31 62	9 57	260 00	405 00
31 Wrist circumference	185 14	14 98	8 09	155 00	225 00
33 Vertical trunk circumference	1777 46	127 35	7 16	1140 00	2035 00
34 Crotch length	757 68	69 53	9 18	620 00	920 00
35 Shoulder length	137 89	20 82	15 10	120 00	275 00
36 Arm length	335 00	21 11	6 30	270 00	390 00
37 Upper arm length	615 28	35 54	5 78	505 00	710 00
38 Cervical to wrist length (elbow bent)	838 17	43 37	5 17	740 00	940 00

(continues)

Table 2 (continued)

39. Cervical to brest point length	376.06	30.49	8.11	320.00	440.00
40. Cervical to waist (anterior) length	639.51	56.60	8.85	490.00	760.00
41. Neck shoulder point to waist length	533.10	50.34	9.44	410.00	650.00
42. Neck shoulder point to brest point length	254.30	26.54	10.44	200.00	300.00
43. Shoulder width	418.52	28.43	6.79	368.00	540.00
44. Back width	411.83	40.06	9.73	320.00	540.00
45. Under-arm length	465.00	34.55	7.43	380.00	550.00
46. Scye depth	191.13	24.38	12.76	130.00	250.00
47. Back waist length (cervical to waist)	484.01	28.92	5.97	410.00	550.00
48. Cervical to knee hollow	1036.83	52.44	5.06	850.00	1170.00
49. Cervical to the standing surface length	1515.11	67.53	4.46	1335.00	1683.00
50. Waist to hip length	161.13	21.13	13.12	120.00	210.00
51. Outside leg length	992.45	50.63	5.10	890.00	1150.00
52. Thigh length	307.54	33.01	10.73	240.00	400.00
53. Inside leg length	744.54	41.88	5.63	630.00	867.00

Table 3

The dimensional variability of the Timişoara male population

	Average	σ	**Var.Q**	**Minimum**	**Maximum**
Weight	80.06	15.09	18.85	51.00	116.00
1. Stature	1715.06	60.36	3.52	1531.00	1830.00
2. Waist height	1042.60	34.79	3.34	924.00	1104.00
3. Trochanteric/hip height	905.65	44.23	4.88	788.00	1010.00
4. Knee height	506.94	28.19	5.56	435.00	556.00
5. Trunk height (cervical point-gluteal curve)	687.00	24.68	3.59	638.00	785.00
6. Body rise (waist-gluteal curve)	257.81	25.19	9.77	195.00	309.00
7. Cervicale height (sitting)	662.67	45.42	6.85	590.00	897.00
8. Lateral malleolus height	69.19	9.43	13.62	45.00	90.00
12. Neck circumference (under hyoid bone)	383.98	29.87	7.78	325.00	460.00
13. Neck-base girth	429.44	28.09	6.54	370.00	500.00
14. Chest circumference I	1028.81	92.11	8.95	840.00	1250.00
15. Chest circumference II	1004.13	96.61	9.62	810.00	1210.00
16. Chest circumference III	945.17	102.84	10.88	760.00	1160.00
18. Waist circumference	945.19	135.48	14.33	650.00	1210.00

(continues)

Table 3 (continued)

19. Hip girth	1017.15	86.79	8.53	820.00	1200.00
20. Buttock circumference including the abdominal protrusion	1052.25	96.01	9.12	890.00	1240.00
21. Thigh circumference	586.63	56.81	9.68	480.00	710.00
22. Mid-thigh circumference	518.83	49.72	9.58	424.00	630.00
23. Knee circumference	392.25	29.51	7.52	350.00	457.00
24. Lower knee circumference	355.73	25.14	7.07	320.00	410.00
25. Calf circumference	377.27	31.01	8.22	300.00	460.00
26. Minimum calf circumference	240.00	17.72	7.38	210.00	290.00
27. Ankle circumference	271.19	23.82	8.78	243.00	360.00
28. Armscye circumference	503.19	59.36	11.80	380.00	660.00
29. Upper-arm circumference	305.44	32.75	10.72	240.00	360.00
30. Elbow circumference	320.52	30.88	9.63	260.00	385.00
31. Wrist circumference	175.67	11.94	6.80	135.00	200.00
33. Vertical trunk circumference	1759.69	94.79	5.39	1600.00	2060.00
34. Crotch length	765.44	75.92	9.92	620.00	960.00
35. Shoulder length	160.38	11.06	6.90	130.00	180.00
36. Arm length	340.88	44.06	12.92	280.00	560.00
37. Upper arm length	633.08	52.45	8.28	530.00	860.00
38. Cervical to wrist length (elbow bent)	848.56	35.90	4.23	775.00	925.00
39. Cervical to brest point length	366.98	26.99	7.35	310.00	430.00
40. Cervical to waist (anterior) length	635.23	55.75	8.78	540.00	780.00
41. Neck shoulder point to waist length	534.48	40.81	7.63	450.00	640.00
42. Neck shoulder point to brest point length	268.33	24.50	9.13	230.00	360.00
43. Shoulder width	386.13	24.18	6.26	339.00	437.00
44. Back width	432.35	31.14	7.20	360.00	500.00
45. Under-arm length	471.63	30.88	6.55	390.00	550.00
46. Scye depth	189.56	29.12	15.36	145.00	245.00
47. Back waist length (cervical to waist)	483.79	27.70	5.72	434.00	570.00
48. Cervical to knee hollow	1049.69	56.36	5.37	910.00	1200.00
49. Cervical to the standing surface length	1556.15	69.02	4.44	1362.00	1716.00
50. Waist to hip length	207.08	21.43	10.35	150.00	260.00
51. Outside leg length	1067.88	42.06	3.94	940.00	1140.00
52. Thigh length	307.13	25.46	8.29	250.00	360.00
53. Inside leg length	761.44	39.03	5.13	634.00	830.00

Table 4

The dimensional variability of the Constanta male population

	Average	σ	Var.Q	Minimum	Maximum
Weight	75 85	14 26	18 80	44 00	124 00
1 Stature	1751 24	66 74	3 81	1564 00	1905 00
2 Waist height	1068 27	58 83	5 51	910 00	1195 00
3 Trochanteric/hip height	958 72	55 94	5 83	780 00	1102 00
4 Knee height	519 59	44 51	8 57	435 00	643 00
5 Trunk Height (cervical point-gluteal curve)	701 04	36 06	5 14	627 00	786 00
6 Body rise (waist-gluteal curve)	280 14	35 45	12 65	155 00	358 00
7 Cervicale height (sitting)	668 45	42 93	6 42	537 00	880 00
8 Lateral malleolus height	67 15	7 06	10 52	54 00	85 00
12 Neck circumference (under hyoid bone)	379 83	26 14	6 88	330 00	440 00
13 Neck-base girth	423 79	26 31	6 21	360 00	520 00
14 Chest circumference I	985 82	98 39	9 98	625 00	1260 00
15 Chest circumference II	961 60	105 77	11 00	670 00	1270 00
16 Chest circumference III	905 51	105 23	11 62	710 00	1210 00
18 Waist circumference	872 82	137 46	15 75	650 00	1300 00
19 Hip girth	972 18	103 59	10 66	620 00	1310 00
20 Buttock circumference including the abdominal protrusion	1036 23	99 64	9 62	835 00	1320 00
21 Thigh circumference	587 50	62 39	10 62	465 00	770 00
22 Mid-thigh circumference	520 13	54 89	10 55	370 00	675 00
23 Knee circumference	392 37	26 75	6 82	320 00	470 00
24 Lower knee circumference	360 87	29 09	8 06	300 00	460 00
25 Calf circumference	370 27	37 57	10 15	250 00	455 00
26 Minimum calf circumference	244 83	22 66	9 25	190 00	300 00
27 Ankle circumference	270 47	23 72	8 77	190 00	345 00
28 Armscye circumference	461 00	54 13	11 74	360 00	580 00
29 Upper-arm circumference	302 36	42 25	13 97	230 00	530 00
30 Elbow circumference	308 28	29 13	9 45	255 00	405 00
31 Wrist circumference	173 79	17 90	10 30	140 00	290 00
33 Vertical trunk circumference	1752 47	95 18	5 43	1545 00	2000 00
34 Crotch length	743 91	70 60	9 49	590 00	940 00
35 Shoulder length	163 14	19 27	11 81	110 00	215 00
36 Arm length	365 38	30 51	8 35	285 00	500 00
37 Upper arm length	649 78	45 44	6 99	520 00	815 00
38 Cervical to wrist length (elbow bent)	854 86	45 19	5 29	725 00	1000 00

(continues)

Tabel 4 (continued)

39 Cervical to brest point length	344 04	28 32	8 23	290 00	415 00
40 Cervical to waist (anterior) length	591 15	46 48	7 86	500 00	730 00
41 Neck shoulder point to waist length	488 01	55 53	11 38	360 00	650 00
42 Neck shoulder point to brest point length	241 10	40 64	16 86	160 00	335 00
43 Shoulder width	398 58	29 47	7 39	343 00	496 00
44 Back width	410 29	41 82	10 19	330 00	545 00
45 Under-arm length	465 32	56 46	12 13	230 00	545 00
46 Scye depth	182 76	33 26	18 20	120 00	265 00
47 Back waist length (cervical to waist)	473 46	31 44	6 64	380 00	540 00
48 Cervical to knee hollow	1064 81	53 04	4 98	970 00	1200 00
49 Cervical to the standing surface length	1582 63	80 91	5 11	1432 00	1805 00
50 Waist to hip length	163 27	23 94	14 66	120 00	235 00
51 Outside leg length	1025 58	70 59	6 88	880 00	1180 00
52 Thigh length	331 35	35 04	10 57	260 00	495 00
53 Inside leg length	781 28	44 72	5 72	650 00	900 00

Table 5

The dimensional variability of the Bacău male population

	Average	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	78 10	14 26	18 26	45 00	120 00
1 Stature	1710 67	68 71	4 02	1421 00	1938 00
2 Waist height	1009 44	56 44	5 59	807 00	1182 00
3 Trochanteric/hip height	890 15	52 60	5 91	720 00	1090 00
4 Knee height	501 31	35 54	7 09	390 00	615 00
5 Trunk height (cervical point-gluteal curve)	708 47	37 61	5 31	602 00	812 00
6 Body rise (waist-gluteal curve)	248 36	30 48	12 27	191 00	352 00
7 Cervicale height (sitting)	656 80	44 54	6 78	554 00	890 00
8 Lateral malleolus height	74 43	11 79	15 84	49 00	102 00
12 Neck circumference (under hyoid bone)	402 67	32 05	7 96	330 00	510 00
13 Neck-base girth	470 07	38 23	8 13	370 00	580 00
14 Chest circumference I	1038 65	89 10	8 58	820 00	1260 00
15 Chest circumference II	1018 48	94 20	9 25	785 00	1250 00
16 Chest circumference III	974 33	92 67	9 51	740 00	1210 00
18 Waist circumference	987 38	128 68	13 03	650 00	1300 00

(continues)

Table 5 (continued)

19. Hip girth	1025.77	84.54	8.24	820.00	1280.00
20. Buttock circumference including the abdominal protrusion	1101.19	132.04	11.99	820.00	1480.00
21. Thigh circumference	591.89	72.87	12.31	425.00	810.00
22. Mid-thigh circumference	488.14	48.77	9.99	385.00	630.00
23. Knee circumference	392.88	29.87	7.60	320.00	490.00
24. Lower knee circumference	356.58	27.32	7.66	280.00	425.00
25. Calf circumference	376.82	32.17	8.54	285.00	475.00
26. Minimum calf circumference	244.35	20.87	8.54	195.00	340.00
27. Ankle circumference	277.63	18.17	6.54	230.00	330.00
28. Armscye circumference	475.52	58.12	12.22	330.00	620.00
29. Upper-arm circumference	316.68	34.38	10.86	240.00	420.00
30. Elbow circumference	332.80	34.24	10.29	260.00	425.00
31. Wrist circumference	183.36	12.46	6.80	135.00	215.00
33. Vertical trunk circumference	1791.47	99.58	5.56	1520.00	2120.00
34. Crotch length	759.14	68.51	9.02	510.00	960.00
35. Shoulder length	139.20	18.41	13.23	100.00	220.00
36. Arm length	337.58	28.46	8.43	260.00	500.00
37. Upper arm length	626.75	38.48	6.14	490.00	790.00
38. Cervical to wrist length (elbow bent)	842.75	43.93	5.21	670.00	950.00
39. Cervical to brest point length	380.66	31.70	8.33	300.00	480.00
40. Cervical to waist (anterior) length	656.02	55.85	8.51	525.00	860.00
41. Neck shoulder point to waist length	543.61	51.58	9.49	430.00	700.00
42. Neck shoulder point to brest point length	263.66	26.81	10.17	200.00	380.00
43. Shoulder width	421.75	27.79	6.59	360.00	560.00
44. Back width	428.09	44.68	10.44	310.00	580.00
45. Under-arm length	476.07	38.04	7.99	360.00	570.00
46. Scye depth	199.05	25.47	12.80	130.00	275.00
47. Back waist length (cervical to waist)	489.71	35.37	7.22	410.00	640.00
48. Cervical to knee hollow	1044.20	53.30	5.10	840.00	1230.00
49. Cervical to the standing surface length	1544.15	78.37	5.08	1230.00	1735.00
50. Waist to hip length	166.68	23.35	14.01	110.00	250.00
51. Outside leg length	1022.98	57.56	5.63	870.00	1190.00
52. Thigh length	309.24	36.09	11.67	240.00	460.00
53. Inside leg length	764.81	49.47	6.47	620.00	960.00

Table 6

The dimensional variability of the Romanian male population

	Average	σ	Var.Q	Minimum	Maximum
Weight	78 04	14 36	18 41	44 00	135 00
1 Stature	1719 44	67 75	3 94	1421 00	1938 00
2 Waist height	1022 14	59 32	5 80	807 00	1195 00
3 Trochanteric/hip height	903 09	63 48	7 03	692 00	1117 00
4 Knee height	498 71	38 28	7 68	390 00	643 00
5 Trunk height (cervical point-gluteal curve)	706 15	37 18	5 27	600 00	855 00
6 Body rise (waist-gluteal curve)	253 75	34 37	13 55	150 00	419 00
7 Cervicale height (sitting)	668 48	57 56	8 61	535 00	961 00
8 Lateral malleolus height	70 84	10 15	14 33	45 00	102 00
12 Neck circumference (under hyoid bone)	395 64	32 43	8 20	325 00	510 00
13 Neck-base girth	456 64	41 75	9 14	360 00	600 00
14 Chest circumference I	1029 03	93 67	9 10	625 00	1370 00
15 Chest circumference II	1004 88	104 54	10 40	230 00	1340 00
16 Chest circumference III	955 04	111 12	11 64	10 00	1290 00
18 Waist circumference	960 02	132 09	13 76	650 00	1350 00
19 Hip girth	1016 88	88 64	8 72	620 00	1345 00
20 Buttock circumference including the abdominal protrusion	1077 88	118 23	10 97	820 00	1480 00
21 Thigh circumference	588 59	65 16	11 07	425 00	860 00
22 Mid-thigh circumference	499 59	52 24	10 46	370 00	680 00
23 Knee circumference	394 04	29 45	7 47	320 00	515 00
24 Lower knee circumference	357 74	26 55	7 42	280 00	460 00
25 Calf circumference	376 74	33 21	8 81	250 00	495 00
26 Minimum calf circumference	244 10	19 85	8 13	190 00	340 00
27 Ankle circumference	274 93	19 72	7 17	190 00	360 00
28 Armscye circumference	468 53	57 55	12 28	330 00	660 00
29 Upper-arm circumference	312 72	36 06	11 53	230 00	530 00
30 Elbow circumference	327 00	34	10 43	170 00	425 00
31 Wrist circumference	181 92	15 07	8 8	135 00	290 00
33 Vertical trunk circumference	1782 40	107 74	6 04	1140 00	2180 00
34 Crotch length	755 50	68 04	9 01	510 00	960 00
35 Shoulder length	148 60	22 83	15 36	100 00	350 00
36 Arm length	346 44	33 68	9 72	260 00	560 00
37 Upper arm length	634 28	44 47	7 01	490 00	860 00
38 Cervical to wrist length (elbow bent)	849 58	44 06	5 19	670 00	1000 00
39 Cervical to brest point length	373 25	35 73	9 57	280 00	500 00

(continues)

Table 6 (continued)

40. Cervical to waist (anterior) length	643.66	59.21	9.20	490.00	860.00
41. Neck shoulder point to waist length	533.47	52.75	9.89	360.00	700.00
42. Neck shoulder point to brest point length	260.55	29.89	11.47	160.00	380.00
43. Shoulder width	413.08	31.03	7.51	339.00	560.00
44. Back width	424.54	43.27	10.19	310.00	620.00
45. Under-arm length	474.30	39.08	8.24	230.00	570.00
46. Scye depth	189.49	29.17	15.39	120.00	275.00
47. Back waist length (cervical to waist)	486.17	33.37	6.86	380.00	640.00
48. Cervical to knee hollow	1055.43	56.97	5.40	840.00	1250.00
49. Cervical to the standing surface length	1552.84	80.21	5.17	1230.00	1805.00
50. Waist to hip length	166.26	29.36	17.66	100.00	260.00
51. Outside leg length	1024.82	60.93	5.95	720.00	1190.00
52. Thigh length	317.06	34.98	11.03	240.00	495.00
53. Inside leg length	764.12	46.40	6.07	620.00	960.00

Table 7

Anthropological variability in time and space of some body dimensions in the Romanian male population

Romania 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	78.04	14.36	18.41	44	135
Vertex point to the standing surface	1719.44	67.75	3.91	1421	1938
Thorax circumference	1004.88	104.54	10.46	730	1340
Waist circumference	960.02	132.09	13.76	650	1350
Romania 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	71.15	10.65	14.97	45	130
Vertex point to the standing surface	1712.66	65.48	3.82	1461	2000
Thorax circumference	951.09	75.45	7.93	680	1800
Waist circumference	869.70	98.68	11.35	570	1410

București 2004	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	80.13	14.24	17.77	51	135
Vertex point to the standing surface	1726.96	66.01	3.82	1571	1895
Thorax circumference	1017.21	96.92	9.53	830	1340
Waist circumference	970.85	112.72	11.61	680	1350
București 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	68.35	10.75	15.73	40	90
Vertex point to the standing surface	1687.02	64.94	3.85	1650	1870
Thorax circumference	920.74	75.81	8.23	740	1145
Waist circumference	842.88	102.26	12.13	660	1145

(continues)

Table 7 (continued)

Brașov 2004	Average	σ	Var.Q	Minimum	Maximum
Weight	74.87	13.99	18.69	50	110
Vertex point to the standing surface	1700.20	61.73	3.63	1580	1905
Thorax circumference	995.85	102.55	10.30	800	1290
Waist circumference	960.34	130.23	13.56	680	1254
Transylvania 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	65.98	10.10	7.30	43	107
Vertex point to the standing surface	1676.38	61.34	3.66	1505	1890
Thorax circumference	917.61	66.97	12.12	680	1210
Waist circumference	815.38	98.84	5.67	550	1190

Timișoara 2004	Average	σ	Var.Q	Minimum	Maximum
Weight	80 06	15.09	18.85	51	116
Vertex point to the standing surface	1715.06	60.36	3.52	1531	1830
Thorax circumference	1004.13	96.61	9.62	810	1210
Waist circumference	945.19	135.48	14.33	650	1210
Banat 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	66.98	10.25	16.20	41	125
Vertex point to the standing surface	1678.52	60.72	3.62	1460	1880
Thorax circumference	935.21	71.84	7.68	770	1230
Waist circumference	849.15	97.77	11.51	640	1280

Constanța 2004	Average	σ	Var.Q	Minimum	Maximum
Weight	75.85	14.26	18.80	44	124
Vertex point to the standing surface	1751.24	66.74	3.81	1564	1905
Thorax circumference	961.60	105.77	11.00	670	1270
Waist circumference	872.82	137.46	15.75	650	1300
Dobrogea 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	73.72	11.64	15.79	48	120
Vertex point to the standing surface	1698.31	57.95	3.41	1537	1870
Thorax circumference	962.64	72.85	7.57	770	1340
Waist circumference	883.03	109.56	12.39	680	1430

Bacău 2004	Average	σ	Var.Q	Minimum	Maximum
Weight	78.10	14.26	18.26	45	120
Vertex point to the standing surface	1710.67	68.71	4.02	1421	1938
Thorax circumference	1018.48	94.20	9.25	78[illegible]	1250
Waist circumference	987.38	128.68	13.03	650	1300
Moldavia 1980	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	69.32	10.00	14.43	45	107
Vertex point to the standing surface	1710.59	61.67	3.61	1500	1966
Thorax circumference	929.44	60.32	6.49	750	1150
Waist circumference	835.29	85.97	10.29	640	1130

Table 8

Age-related variability of the main body dimensions in the Romanian male population, 1980

DIMENSIONS					
Total	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	71.15	10.65	14.97	45	130
Vertex point to the standing surface	1712.66	65.48	3.82	1461	2000
Thorax circumference	951.09	75.45	7.93	680	1800
Waist circumference	869.70	98.68	11.35	570	1410
DIMENSIONS					
Age 17-24	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	66.45	8.01	12.06	46	96
Vertex point to the standing surface	1723.66	66.63	3.87	1540	2000
Thorax circumference	903.97	57.67	6.38	680	1130
Waist circumference	795.22	69.00	8.68	640	1120
DIMENSIONS					
Age 25-29	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	70.18	9.37	13.35	47	130
Vertex point to the standing surface	1724.21	61.22	3.55	1543	1900
Thorax circumference	933.29	64.60	6.92	725	1250
Waist circumference	838.79	81.68	9.74	570	1240
DIMENSIONS					
Age 30-34	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	72.12	10.65	14.77	46	113
Vertex point to the standing surface	1720.73	67.22	3.91	1530	1970
Thorax circumference	953.95	76.48	8.02	760	1800
Waist circumference	866.85	89.00	10.27	670	1250
DIMENSIONS					
Age 35-39	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	72.94	11.47	15.72	50	120
Vertex point to the standing surface	1714.28	64.33	3.75	1554	1932
Thorax circumference	965.05	74.63	7.73	800	1230
Waist circumference	884.18	94.75	10.72	660	1240
DIMENSIONS					
Age 40-44	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	72.91	11.00	15.08	50	112
Vertex point to the standing surface	1702.25	65.04	3.82	1535	1890
Thorax circumference	973.49	74.19	7.62	740	1200
Waist circumference	903.95	96.05	10.63	700	1250

(continues)

Table 8 (continued)

DIMENSIONS					
Age 45-49	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	72.20	11.58	16.04	46	118
Vertex point to the standing surface	1695.14	64.84	3.83	1528	1916
Thorax circumference	971.28	86.76	8.93	770	1660
Waist circumference	907.17	103.47	11.41	640	1410
DIMENSIONS					
Age 50-54	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	74.21	11.49	15.48	45	111
Vertex point to the standing surface	1696.51	66.34	3.91	1461	1931
Thorax circumference	986.23	74.60	7.56	770	1200
Waist circumference	931.28	102.31	10.99	690	1270
DIMENSIONS					
Age 55-59	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	74.95	11.37	15.17	50	111
Vertex point to the standing surface	1688.65	58.54	3.47	1560	1830
Thorax circumference	983.87	71.82	7.30	800	1250
Waist circumference	941.33	97.44	10.35	720	1225
DIMENSIONS					
Age > 60	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	74.19	12.37	16.68	49	101
Vertex point to the standing surface	1679.76	77.17	4.59	1480	1813
Thorax circumference	979.32	67.20	6.86	840	1130
Waist circumference	925.00	109.19	11.80	680	1150

Table 9

Age-related variability of the main body dimensions in the Romanian male population, 2004

DIMENSIONS					
Total	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	77.97	14.28	18.31	44	135
Vertex point to the standing surface	1719.34	67.77	3.94	1421	1938
Thorax circumference	1006.19	97.67	9.71	780	1340
Waist circumference	959.44	131.49	13.70	650	1350
DIMENSIONS					
Age 17-19	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	78.50	19.69	25.08	51	124
Vertex point to the standing surface	1765.25	52.24	2.96	1705	1851
Thorax circumference	987.08	116.20	11.77	855	1270
Waist circumference	845.83	177.51	20.99	650	1300

(continues)

Table 9 (continued)

DIMENSIONS					
Age 20-24	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	70.41	11.13	15.80	44	106
Vertex point to the standing surface	1749.35	78.63	4.49	1564	1905
Thorax circumference	923.57	83.05	8.99	780	1120
Waist circumference	817.61	96.40	11.79	670	1120
DIMENSIONS					
Age 25-29	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	69 78	9.44	13.53	50	90
Vertex point to the standing surface	1745.13	70 62	4.05	1584	1938
Thorax circumference	934.75	69.73	7.46	800	1120
Waist circumference	833.48	75.51	9.06	680	1010
DIMENSIONS					
Age 30-34	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	78.96	19.13	24.23	50	135
Vertex point to the standing surface	1729.46	60.68	3.51	1613	1875
Thorax circumference	1007.93	125.04	12.41	785	1300
Waist circumference	947.63	149.87	15.81	710	1270
DIMENSIONS					
Age 35-39	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	75.82	12.05	15.89	53	106
Vertex point to the standing surface	1717.42	67.62	3.94	1572	1905
Thorax circumference	1001.29	82.26	8.22	850	1175
Waist circumference	949.84	97.78	10.29	680	1120
DIMENSIONS					
Age 40-44	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	79.52	15.31	19.25	54	111
Vertex point to the standing surface	1708.90	67.45	3.95	1421	1815
Thorax circumference	1022.58	98.84	9.67	340	1230
Waist circumference	980.29	120.94	12.34	760	1215
DIMENSIONS					
Age 45-49	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	80.78	14.34	17.76	45	116
Vertex point to the standing surface	1712.80	65.31	3.81	1540	1881
Thorax circumference	1030 39	94.62	9.18	820	1290
Waist circumference	1001.25	122.14	12.20	650	1300

(continues)

Table 9 (continued)

DIMENSIONS					
Weight	79.56	14.06	17.67	53	130
Vertex point to the standing surface	1703.71	64.28	3.77	1531	1895
Age 50-54	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Thorax circumference	1024.69	90.48	8.83	810	1340
Waist circumference	1003.19	113.15	11.28	670	1350
DIMENSIONS					
Age > 55	**Average**	**σ**	**Var.Q**	**Minimum**	**Maximum**
Weight	81.02	11.66	14.39	58	106
Vertex point to the standing surface	1716.45	61.94	3.61	1571	1867
Thorax circumference	1030.82	74.50	7.23	865	1180
Waist circumference	1014.46	101.12	9.97	810	1255

3. **Body dimensions that do not depend upon weight or mesological conditions.** A similar situation we found in the case of some circumferences that are not conditioned very much by weight or mesological conditions upon which subjects depend (daily variations of hydration/dehydration, nutritional intake, physiological states such as organic residual evacuations or lack of these): neck circumference, under hyoid bone (12), neck-base girth (13), chest circumference I (14), hip Girth (19), knee circumference (23), lower knee circumference (24), calf circumference (25), ankle circumference (27), wrist circumference (31), vertical trunk circumference (33), crotch length (34). As the previous group of measures, the studied samples show a high degree of homogeneity regarding these dimensions.

4. **The dimensions that depend upon weight or mesological conditions** show a higher value of variability coefficient, between 10-20%. For a more representative analysis of the samples, we introduced two subcategories: samples with a value of the variability coefficient lower than 14.99% and samples with a value of the variability coefficient between 15-20%.

Even if in the first subcategory of samples the variability indicated by our study does not correspond to the entire range of the parameters variability, it represents however a still high degree of homogeneity that harmonizes with the statistical normality of the analyzed dimensions ($M \pm 3\sigma$). Therefore the following dimensions can be taken into consideration: body rise that is waist-gluteal curve (6), lateral malleolus height (8), chest circumference II (15), chest circumference III (16), waist circumference (17), buttock circumference including the abdominal protrusion (20), thigh circumference (21), mid-thigh circumference (22), armscye circumference (28), upper-arm circumference (29), elbow circumference (30).

Table 10

BMI variability in the Quetelet scale of classification, male population, 2004

Categories		age 18-19		age 20-24		age 25-29		age 30-34		age 35-39		age 40-44		age 45-49		age 50-54		age >55	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
underweight	< 16	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0 00	0	0.00
	16-16.99	1	8.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0 00	0	0.00	0	0.00
	17-18.49	0	0.00	4	8.16	0	0.00	2	4.88	0	0 00	0	0.00	2	1.64	0	0 00	0	0.00
Total		1	8.33	4	8.16	0	0.00	2	4.88	0	0 00	0	0.00	2	1.64	0	0.00	0	0 00
normality	**18.50-24.99**	**7**	**58.33**	**35**	**71.43**	**31**	**77.50**	**15**	**36.59**	**29**	**46.77**	**19**	**36.54**	**32**	**26.23**	**32**	**27.12**	**15**	**26.79**
overweight	25-29.99	2	16.67	7	14.29	9	22.50	14	34.15	29	46 77	20	38.46	54	44.26	59	50.00	27	48.21
	30-39.99	1	8.33	3	6.12	0	0 00	10	24.39	4	6.45	13	25.00	34	27.87	26	22.03	14	25.00
	> 40	1	8.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0 00	0	0 00	1	0.85	0	0.00
Total		4	33.33	10	20.41	9	22.50	24	58 54	33	53 23	33	63.46	88	72.1311	86	72.88	41	73.21
Total		***12***	***100***	***49***	***100***	***40***	***100***	***41***	***100***	***62***	***100***	***52***	***100***	***122***	***100***	***118***	***100***	***56***	***100***

Table 11

BMI variability in the Quetelet scale of classification, malepopulation, 1980

Categories		age 20-24		age 25-29		age 30-34		age 35-39		age 40-44		age 45-49		age 50-54		age >55	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
underweight	< 16	0	0.00	0	0.00	0	0.00	0	0 00	0	0.00	0	0 00	0	0.00	0	0.00
	16-16.99	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.32	0	0.00
	17-18.49	6	1.17	15	1.89	8	1.11	3	0.59	4	0.90	7	1.56	3	0.95	3	1.14
Total		6	1 17	15	1.89	8	1.11	3	0.59	4	0.90	7	1.56	4	1.27	3	1.14
normality	**18.50-24.99**	**430**	**83.98**	**562**	**70.78**	**450**	**62.67**	**282**	**55.29**	**234**	**52.94**	**215**	**47.78**	**122**	**38.73**	**93**	**35.23**
overweight	25-29.99	72	14.06	199	25.06	227	31.62	189	37.06	172	38.91	195	43.33	154	48.89	132	50.00
	30-39.99	4	0.78	17	2.14	33	4.60	36	7.06	32	7.24	33	7.33	35	11.11	36	13.64
	> 40	0	0.00	1	0.13	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total		76	14.84	217	27.33	260	36.21	225	44.12	204	46.15	228	50.67	189	60.00	168	63.64
Total		***512***	***100***	***794***	***100***	***718***	***100***	***510***	***100***	***442***	***100***	***450***	***100***	***315***	***100***	***264***	***100***

Table 12

Correlation matrix of variables – entire sample (2004)

Variables	Age	Waist Circ.	Buttock Circ.	Weight	Height	B.M.I.
Age	1.00	0.36**	0.25*	0.25*	-0.14	0.38**
Waist Circ.		1.00	0.67***	0.73***	0.25*	0.70***
Buttock Circ.			1.00	0.56**	0.09	0.62***
Weight				1.00	0.52**	0.85***
Height					1.00	0.00
B.M.I.						1.00

Height presents o tendency of negative correlation with age and a null one with BMI. The same significances could be generally found according to sex too, with the specification that in the female series weight and hip circumferences are highly correlated with age, compared with the male series, where these correlations are insignificant.

Table 13

Correlation matrix of variables – male sample (2004)

Variables	Age	Waist Circ.	Buttock Circ.	Weight	Height	B.M.I.
Age	1.00	0.31**	0.12	0.18	-0.24*	0.34**
Waist Circ.		1.00	0.65***	0.64***	0.18	0.62***
Buttock Circ.			1.00	0.48**	0.17	0.45**
Weight				1.00	0.46**	0.87***
Height					1.00	-0.03
B.M.I.						1.00

* = significant (p-value < 0,05)
** = very significant (p-value < 0,01)
*** = highly significant (p-value < 0,001)
B.M.I. – body mass index

Only three dimensions can be numbered in the second subcategory, which through the variability coefficient ranging between values of 15-19% present a less homogeneous degree that does not cover the entire variability within statistical normality: shoulder length (35), scye depth (46) and waist to hip length (50). Only for one sample (Bucureşti) the variability coefficient outruns the value of 20% in the case of the waist to hip length (22.22%). For these three dimensions, although the samples are included in the category of relatively homogeneous samples, the variability ranges are not covered by the analyzed subjects, since their number does not cover the individual variability but still joins the statistical normality ($M \pm 3\sigma$).

We noticed that the subjects could be generally grouped according to the considered geographical areas in highly homogeneous and homogeneous samples, as regards the lengths and other dimensions as well. Weight, shoulder length, scye depth and waist to hip length are the sole parameters that present a relatively high variability.

If we can speak about the homogeneity of values for the same dimension within each sample and their fitting in the general sample, at the country level, we

cannot neglect, however, the dimensional variability that can be outlined according to different geographical areas that is characteristic of the anthropological constitution typology.

In order to point out this area-related variability, we considered four of the main body dimensions: height, weight, hip girth and chest circumference and we resorted to the existing database at the Anthropological Research Center concerning recordings of 17,000 males, aged 20-60 years, proceeding from some 130 urban and rural localities in our country.

The gathered material cannot be, either as regards the number of subjects, or as regards the number of localities, relevant for a study that may clearly outdraw area-related variability. But, in comparison with the data provided by of the Center, the existence of the area-related dimensional diversity illustrated above proves the necessity of taking into account this aspect, especially in correlation with the various dimensions that constitute the basis for reviewing the clothes sizes.

5. Body variability in time and space. In Tables 1-6 we present the average dimensional values of some geographically differentiated populations, which may be useful for the ready-made clothes industry.

The analysis of these tables of variability evidences the population's anthropological variability.

The values of the variability coefficients permit the assessment of the representative character of the subjects' number for each area and for each anthropological parameter we studied.

Analyzing these variability coefficients we conclude that, in order to have a national computer database useful for the ready-made clothes industry, a much more representative character of the population from each geographical area, on the one hand, and an extension of this kind of research to other main villages from the country, on the other hand, are needed.

Rural population, whose anthropological variability is different from that of the urban population, was not taken into account, although it represents more than 50% of the country's population.

Following the involvement of the population's anthropological variability in establishing the anthropological profile, we analyzed, in Table 7, the anthropometrical variability in time (secular trend between the years 1980-2004) and in space (geographically) of some dimensions that define the body mass.

Thus, comparing the populations (studied in 2004 and 1980) we noticed that the 2004 population is characterized by significant increases of the weight, thorax circumference and waist girth. The same significant increase of the three body dimensions is recorded for Bucureşti, Braşov, Timişoara and Bacău. Constanța town represents an exception, where the stature of the 2004 population increases significantly as compared with the 1980 one, the other body dimensions varying within insignificant limits.

Microevolutive phenomena occur within the studied populations, consisting in a macro-somatisation of the dimensions that form the anthropological profile. We could say that we are witnessing a sort of "rounding off" of the body carriage at the population level.

Tables 8 and 9 describe the age-related variability of the main body dimensions.

The 2004 population shows the following evolution of the body dimensions: the average value of weight increases from 70.41 kg (age 20-24) to 79.52 kg (age 40-44) and reaches 81.02 kg (after the age of 55).

In the 1980population, the average value of weight increases from 66.45 kg (age 17-24) to 72.91 kg (age 40-44) and reaches 74.19 (after the age of 60).

As regards the stature, in the 2004 series we recorded an average value of 1,749.35 mm (age 20-24), which begins to decrease to 1,708.90 mm (age 40-44) and reaches 1,703.71 mm (after the age of 55).

In the 1980 series, we recorded an average value of 1,723.66 mm (age 17-24), which begins to decrease to 1,702.25 mm (age 40-44) and reaches 1,688 mm (after the age of 55).

Regarding the thorax and waist circumferences, their variability in time and space is significantly differentiated.

In the population studied in 2004, the thorax circumference presents an average value of 923.57 mm (age 20-24) compared with an average value of 903.27 mm in the population at the same age studied in 1980; at the age 40-44, the same dimension shows an average value of 1,022.58 mm in comparison with an average value of 973.49 mm in population studied in 1980; after the age of 55, the thorax circumference presents an average value of 1,030.82 mm in the population studied in 2004 and of 979.32 mm in the population studied in 1980.

The waist circumference reaches, for the 20 to 24 years old age group, an average value of 817.61 mm in 2004 and of 795.22 mm in 1980; for the 40 to 44 years old age group, this dimension displays an average value of 980.29 mm in 2004 and 903.95 mm in 1980; for the over 55 years old age group, the average values of this parameter are: 1,014.46 mm in 2004 and 925.00 mm in 1980.

If we look at the values of these body dimensions from the age-related evolution viewpoint, we notice that both in 1980 and 2004 the increase rates have a certain value constancy, significant for their correlation.

The age-related evolution of the body dimensions (Figs. 1, 2) was analyzed with respect to the "Z" standardized variables or sigmatic variables.

These graphic representations indicate the age-related variability trends of some body dimensions as follows: the average values of the height decrease strongly between ages 18-19 and 35-40, when the stature continues to be placed above the average value of the entire population, and it continues to decrease after the age of 40, placing itself below the average value of the population.

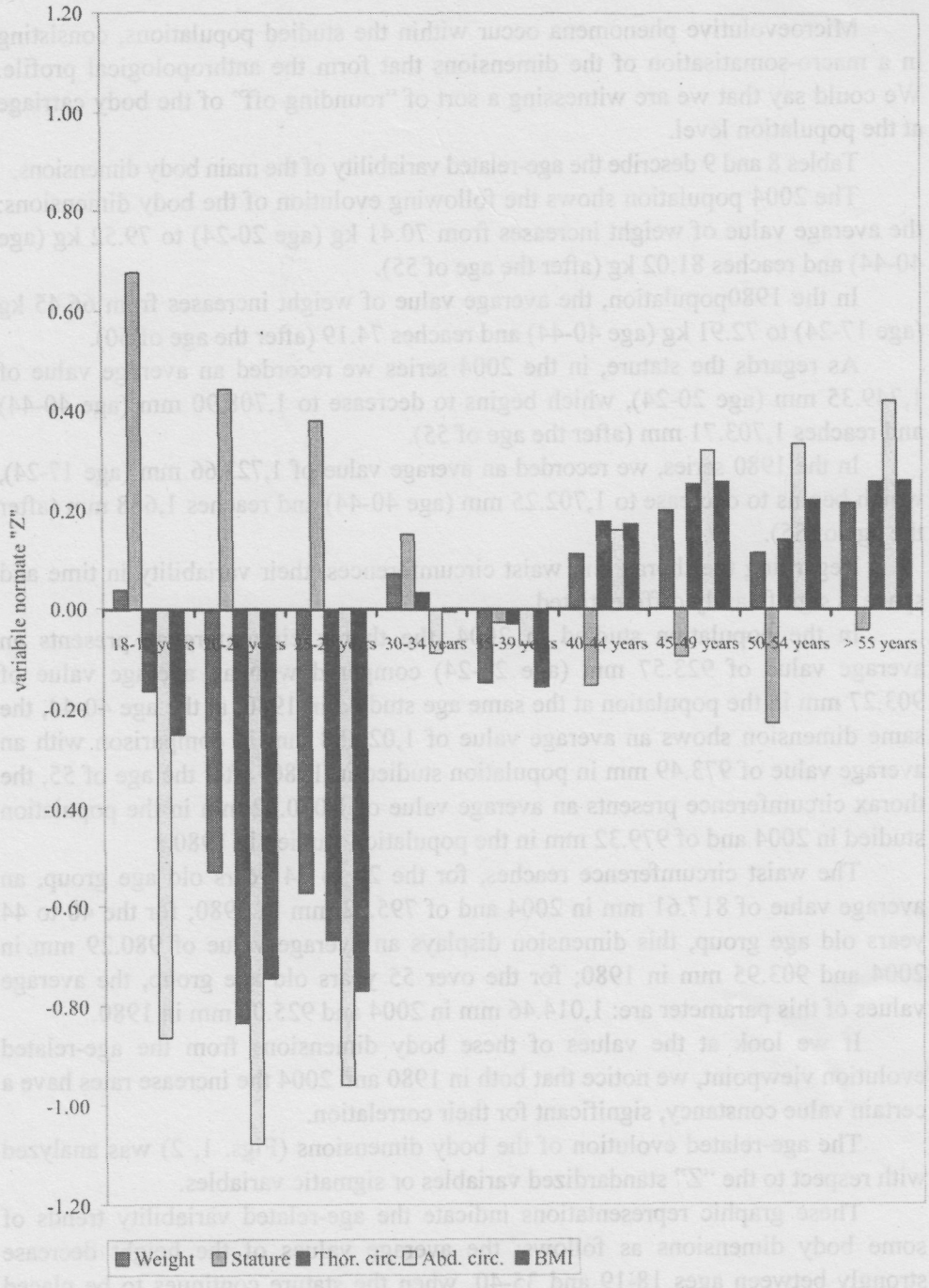

Fig. 1 – Age-related variability of the main body dimensions in the Romanian male population, 2004.

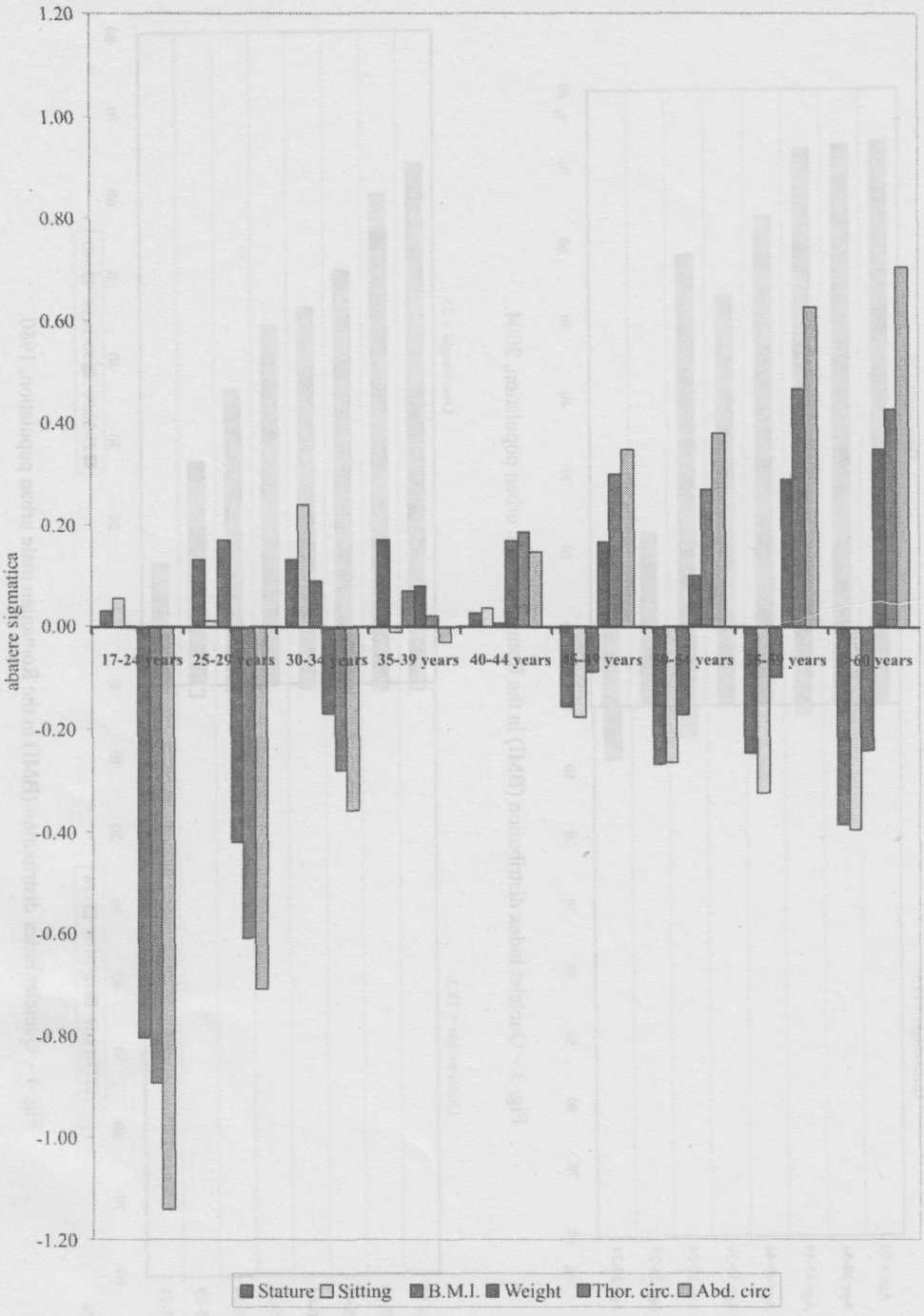

Fig. 2 – Age-related evolution of the main body dimensions (Z-normed variables) by age groups, male series, 1980.

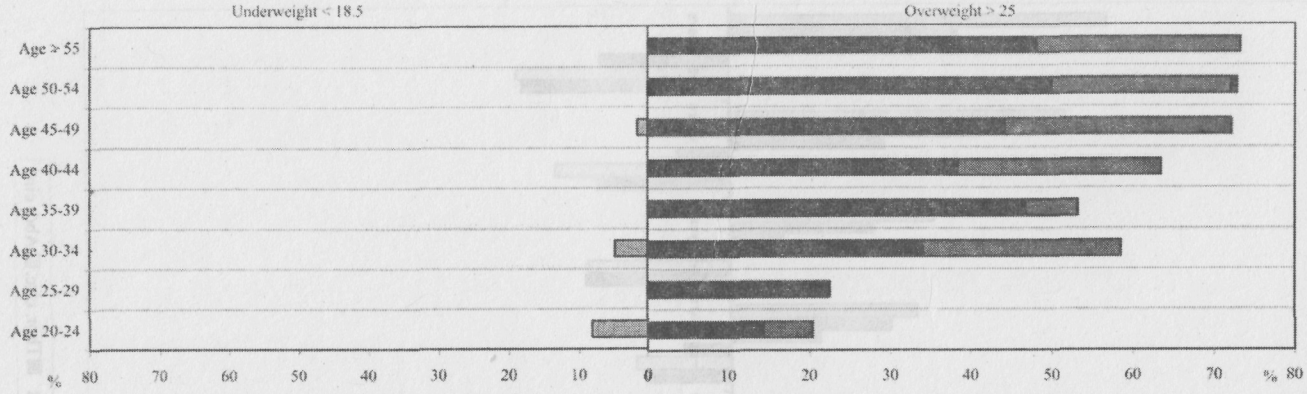

Fig. 3 – Quetelet index distribution (BMI) in the Romanian male urban population, 2004.

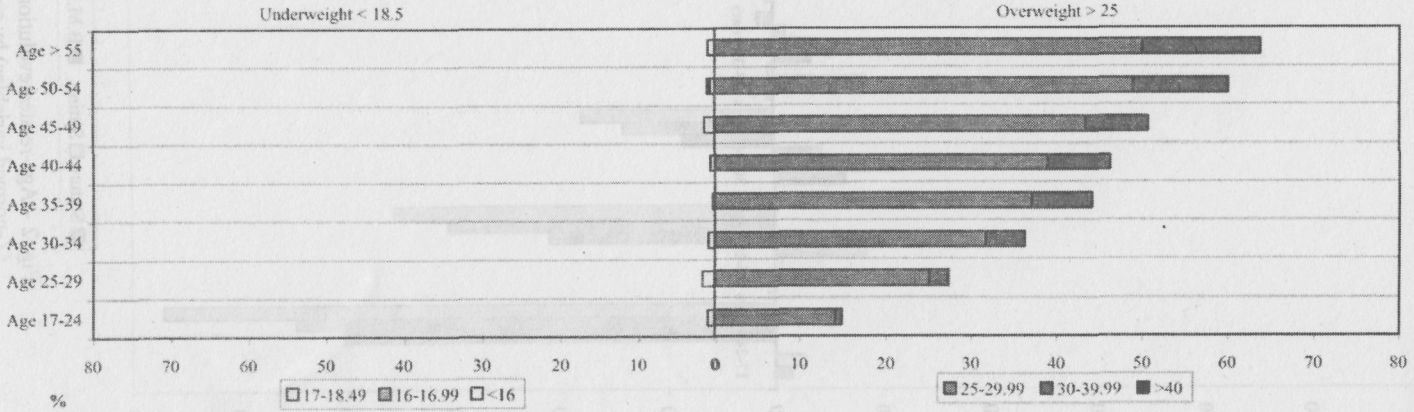

Fig. 4 – Quetelet index distribution (BMI) in the Romanian male urban population, 1980.

As to the weight evolution, this is placed below the average value of the population until the age of 35-40, when it starts to increase, placing itself in the upper register of variability.

The thorax and waist circumferences are situated in the lower register of the population variability until the age of 35-40, a limit from where their average values increase, placing themselves in the upper register of the population variability.

We notice that for all body dimensions the age of 35-40 represents the rupture period of the evolution tendencies regarding the body dimensions, an age when the changes in the population body mass start: lower stature (through the subsidence of the vertebral column and the collapse of the foot vault), significantly increased weight and thorax and waist circumferences.

The WHO recommended the body mass index BMI or the Quetelet index for the analysis of the population body mass and, on the basis of its values, we observed this time, as in the case of the dimensions, a break at the conformation level at the age of 30-35. Thus, at this age, overweight characterizes 58.54% of the 2004 studied male population and 44.12% of the 1980 studied one; after the age of 55, overweight increases up to 73.21% of the 2004 studied male population, as compared to 63.64% of the 1980 studied male population (Fig. 1, Table 10).

This indicates that the population macro-evolutive phenomena, occurred in a period of 24 years, are reflected not only at the dimensional level but also at the conformational one, proving the body mass variability in time.

The statistical correlations standing for the association degree between the tendencies of the value series/rows regarding the studied anthropological variables – age, height, weight, waist and buttock circumferences – are presented in the following tables, indicating strong and highly significant correlations of the body mass index with the age and very significant ones with weight and waist and buttock circumferences (Tables 11, 12).

CONCLUSIONS

Considering the types of variability involved in the anthropological structure of a population, generated by sex, age, residence area, time and space, we consider necessary the extension of this kind of research at the national level, in order to obtain a better representative character.

The researches performed within this survey do not allow this extension, as they make reference to a small number of towns, and these are questionable as regards their representative character.

The conclusions we draw refer to age-related evolution of the body dimensions, suggesting the possibility to create clothes patterns so as to reflect the present dimensional reality of the Romanian population, differentiated for the population aged under 35 and over 55, a limit when the changes in body conformation occur all the way through the increase of overweight variants with obesity tendencies.

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ASPECTS DE LA STRUCTURE ANTHROPOLOGIQUE CHEZ LES POPULATIONS ANCIENNES DE TRANSYLVANIE

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Aspects of the anthropological structure in ancient populations of Transylvania.
This synthesis presents the discoveries in the field of palaeoanthropology while pointing out some structural modifications undergone by the inhabitants of this historical province during the ages. The first proofs, rather scarce, of the human presence in the Transylvanian space belong to the Palaeolithic. If the osteological material dating back to remote periods, such as the Neolithic, comes from some isolated tombs, starting with the Bronze Age the osteological evidence appears to be visibly better represented due to the skeletons found also in some small necropolises. As one approaches the modern epoch, the discovered skeletons are more numerous, coming especially from ever larger necropolises and very seldom from isolated tombs. As far as the anthropological structure is concerned, it can be noticed that, from the dolichocephalous populations, shorter and more gracile, met with during the Neolithic, in our days the inhabitants of this territory have become taller, more robust and with a cranial index predominantly brachycephalous.

Pour se former une image des modifications structurales survenues au long du temps sur les populations ayant habité la région soumise à la recherche, nous proposons que notre analyse tienne compte de l'ancienneté des traces humaines rencontrées dans l'espace transylvain, tout en présentant les opinions de ceux qui se sont occupés de l'étude des documents ostéologiques.

Les traces les plus anciennes de l'homme fossile, localisées sur le territoire de notre pays, ont été signalées pour la première fois au sud-ouest de la Transylvanie. En 1923, on a trouvé dans la grotte d'Ohaba Ponor (Bordul Mare) quelques phalanges qui appartiennent en toute probabilité â l'interglaciaire Riss-Würm. Le chercheur qui s'est occupé de l'étude de ces pièces osseuses a été St. Gaàl et il les a attribuées à *Homo neandertalensis* (Gaàl, 1927- 28).

Toujours en Transylvanie, dans la grotte de Cioclovina (dép. de Hunedoara), en 1942, un groupe d'ouvriers a découvert une calotte crânienne appartenant, probablement, à une femme de 30-40 ans et qui se situe au point de vue stratigraphique au Paléolithique supérieur. Cette calotte a été analysée par Fr.I. Rainer et I. Simionescu qui l'ont attribuée à *Homo sapiens fossilis*, tout en soulignant l'existence d'une affinité avec le type Předmost (Rainer, Simionescu, 1942).

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On peut encore ajouter pour le Paléolithique, cependant avec quelques réserves dues à la datation pour le moment incertaine, la découverte d'une fragment de fémur à Peştera (dép. de Braşov), pièce étudiée par Dardu Nicolaescu-Plopşor (d'après Necrasov, 1965).

En février 2002, une équipe de spéléologues découvre à Peştera cu Oase du sud-ouest de la Roumanie (la zone du Banat) une mandibule d'un homme de 35-40 ans qu'ils remettent à l'Institut de Spéléologie « Emil Racoviţă » de Cluj. Ici, le chercheur Oana Moldovan, réalisant l'importance de la découverte, contacte le professeur anthropologue Erik Trinkaus de l'Université Washington de Saint Louis. Le scientifique américain en appelle à son tour à deux laboratoires (l'un d'Oxford et l'autre de Groningen) et, à la suite de l'analyse à radiocarbone (C_{14}) on établit que la pièce osseuse date d'il y a 34-36.000 ans et appartient à *Homo sapiens*. Conformément aux caractéristiques anthropologiques, la mandibule conserve encore quelques réminiscences néandertaloïdes, exprimées surtout par son poids, sa massivité et sa largeur, ainsi que par quelques particularités de structure des cinq molaires puissamment fixées dans les alvéoles. Toujours à Peştera cu Oase ont été découvertes en 2003 des parties d'une boîte crânienne et les os du visage d'un adolescent de 14-16 ans, ainsi qu'un temporal de femme. Les spécialistes supposent que ces fragments osseux auraient la même ancienneté que la mandibule et que tous ensemble représenteraient les plus anciennes traces de l'homme moderne européen (Trinkaus et collab., 2002).

Le Néolithique est un peu mieux représenté que l'époque précédente, mais apparaît plus pauvre en découvertes par rapport à d'autres zones du pays (tableaux 1, 2 et fig. 1). On y remarque cependant l'existence du plus grand nombre de squelettes appartenant au Néolithique ancien, période également connue sous le nom de culture Starcevo-Criş (5.500 – 4.200 av. J.-C.). Tous les squelettes proviennent de tombes isolées et non pas de nécropoles. Parmi eux, cinq seulement ont pu être analysés du point de vue anthropologique, étant donné leur bon état de conservation. Les squelettes découverts à Bedehaza (dép. de Covasna), Solca (dép. de Bihor) et Cipău (dép. de Mureş) ont été analysés par I.G. Russu et collab. (1956, 1960), et autres deux squelettes en provenance de Gura Baciului (près de Cluj) et de la ville de Cluj (rue 30 Decembrie) ont été étudiés par Olga Necrasov (1965).

A la suite de l'analyse de ce petit nombre de squelettes à l'aspect gracile, on a pu observer, sur la base des mesurages anthropométriques, qu'ils appartiennent à des populations de taille petite et moyenne (les hauteurs oscillant entre 1420 mm et 1558 mm). La calotte crânienne de ces squelettes enregistre une gamme assez large d'indices crâniens: hyperdolichocrâne (Solca), dolichocrâne (Bedehaza), mésocrâne (Cipău), brachycrâne modéré (Gura Baciului), ainsi que des indices vertico-longitudinaux et vertico-transversaux assez hauts. Le front apparaît large, l'occipital est moyennement long ou large, à l'aspect plus ou moins arrondi, ceci étant valable également pour le neurocrâne brachycrâne de Gura Baciului.

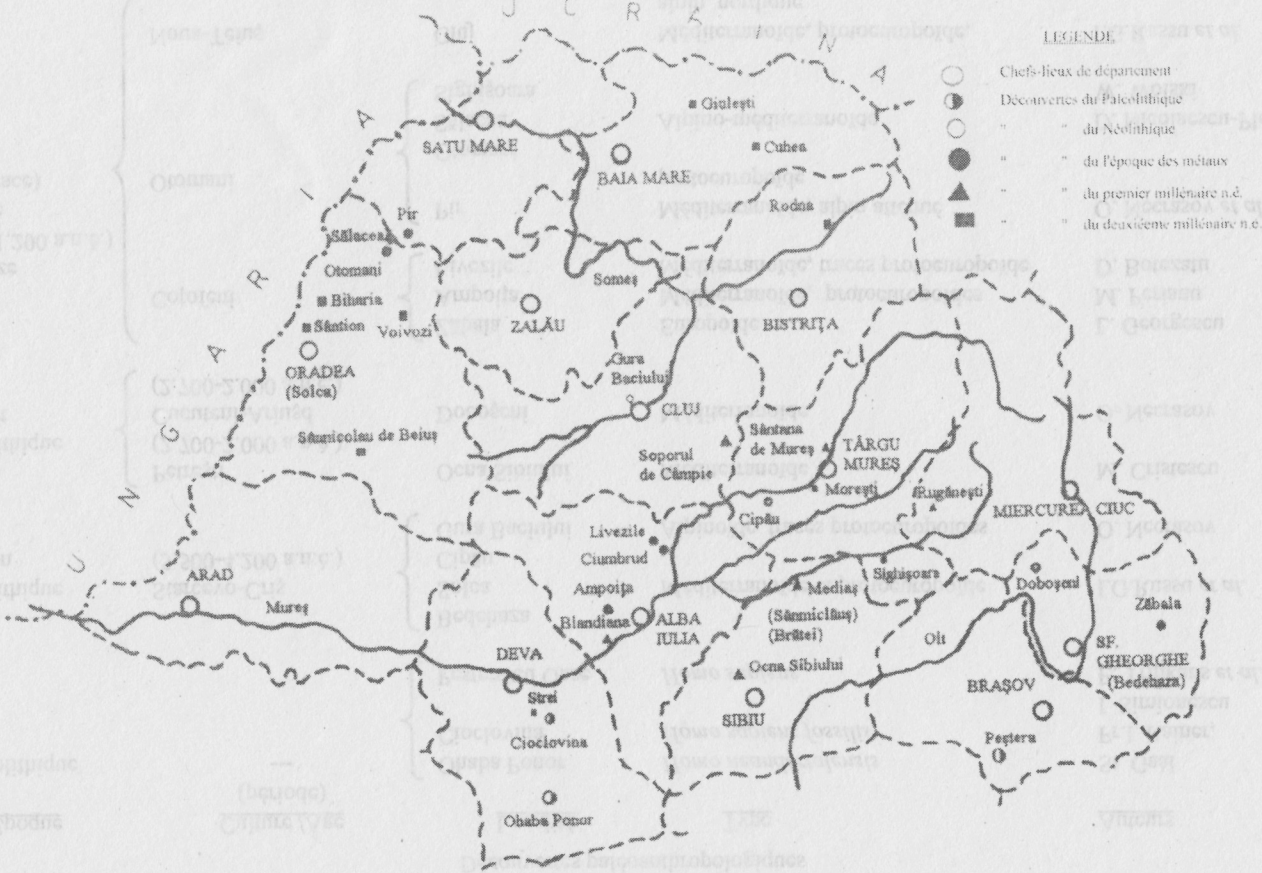

Fig. 1 – Habitats òu ont été découverts des restes humains anciens.

Tableau 1

Découvertes paléoanthropologiques

Époque	Culture /Âge (période)	Localité	Type	Auteurs
1. Paléolithique	---	Ohaba Ponor	*Homo neandertalensis*	St. Gaàl
		Cioclovina	*Homo sapiens fossilis*	Fr.I. Rainer, I. Simionescu
		Peştera cu Oase	*Homo sapiens*	E. Trinkaus *et al.*
2. Néolithique ancien	Starcevo-Criş (5.500-4.200 a.n.è.)	Bedehaza, Solca, Cipău	Méditerranoïde et protoeuropoïde	I.G.Russu *et al.*
		Gura Baciului	Alpinoïde, traces protoeuropoïdes	O. Necrasov
3. Néolithique récent	Petreşti (2.700-2.000 a.n.è.)	Ocna Sibiului	Méditerranoïde	M. Cristescu
	Cucuteni-Ariuşd (2.700-2.000 a.n.è.)	Doboşeni	Méditerranoïde	O. Necrasov
4. Bronze (1.800-1.200 a.n.è.) (période protothrace)	Coţofeni	Zăbala	Europoïde	L. Georgescu
		Ampoiţa	Méditerranoïde, protoeuropoïdes	M. Perianu
		Livezile	Méditerranoïde, traces protoeuropoïde	D. Botezatu
	Otomani	Pir	Méditerranoïde, alpin atténué protoeuropoïde	O. Necrasov *et al.*
		Otomani, Sălacea, Sighişoara	Alpino-méditerranoïde	D. Nicolaescu-Plopşor, W. Wolski
	Noua-Teiuş	Cluj	Méditerranoïde, protoeuropoïde, alpin, nordique	I.G.Russu *et al.*

5. Fer	Hallstatt (1.200 – 300 a.n.è.) (période thrace)	Brătei	Dolicho-mésocrânien et brachycrânien (complexe hallstattien d'influence scythe)	O. Necrasov, D. Botezatu I.G. Russu *et al.*
		Ciumbrud		
	La Tène (450, 300 î.e.n...) (période géto-dace et daco-romaine)	Soporul de Câmpie	Méditerranoïde	I.G. Russu *et al.*
6. Migrations – début époque féodale	IV^e siècle	Sântana de Mureş	Nordique (médit.), est-baltique, alpin	I.G. Russu *et al.*
	V^e siècle	Sânmiclăuş	Méditerranoïde, alpin, protoeuropoïde aténué	D. Botezatu
	VI^e siècle	Cipău	Mongoloïde	W. Wolski, D. Nicolaescu-Plopşor,
		Gîmbaşul de Mureş	Europoïde	I.G. Russu *et al.*
	VIII^e siècle	Brătei	Europoïde (type nordique)	O. Necrasov, D. Botezatu
	X^e siècle	Blandiana	Méditerranoïde, nordique	I.G. Russu *et al.*
7. Féodale et moderne	XI^e siècle	Dealul Viilor	Méditerranoïde, nordique, est-europïde	C. Bălteanu
	XI^e–XII^e siècles	Biharia	Méditerranoïde,nordique, protoeuropoïde	I.G. Russu *et al.*
	XII^e siècle	Zăbala, Peteni	Europoïde	L. Georgescu
	XII^e–XVI^e siècles	Rodna	Méditerranoïde, alpin, dinarique	I.G. Russu *et al.*
	XII^e–XVII^e siècles	Moreşti	Nordique-méditerranoïde, alpin	I.G. Russu *et al.*
	XIV^e siècle	Cuhea	Dolicho-mésocrânien	I. Popovici
	XI^e–XVIII^e siècles	Sânnicolau de Beiuş	Nordique, méditerranoïde, alpin	I. Popovici-Bădărău
	XII^e–XIV^e siècles	Voivozi	Cro-magnoïde plus gracile, alpinoïde	I. Popovici-Bădărău
	XIV^e–XIX^e siècles	Giuleşti	Europoïde (nordoïde)	I. Popovici
	XV^e–XIX^e siècles	Strei	Méditerranïen robuste, nordique	I. Popovici

Tableau 2

Le Néolithique

№ Martin	Culture / Caractère	Criş					Cucuteni-Ariuşd
		Bedehaza ♀ 55 - 40	Cipău ? 30 - 40	Solca ♂ 50 - 55	Gura Baciului ♀ 20 - 25	Cluj ♀ 30 - 40	Doboşeni ♀
1	g-op	185	202	193	170	-	178
8	eu-eu	133	157	132	140	-	127
9	ft-ft	-	-	94	98	-	-
20	po-b	121	128	121	113	-	-
45	zy-zy	-	-	-	125	-	-
47	n-gn	-	-	-	-	-	-
48	n-pr	-	-	-	54	-	-
54	al-al	-	-	-	26	-	-
55	n-sn	-	-	-	48	-	-
66	go-go	-	-	-	-	-	-
8/1	I.cr.	71,89	77,72	68,39	82,35	-	71,35
9/8	I.f.p.	-	-	71,25	70,00	-	-
20/1	I.v.l.	65,29	63,26	62,60	66,47	-	-
20/8	I.v.t.	96,23	81,52	91,66	80,71	-	-
47/45	I.f	-	-	-	-	-	-
48/45	I.f.sup.	-	-	-	51,20	-	-
54/55	I.n.	-	-	-	54,17	-	-
45/8	I.p.j.	-	-	-	89,20	-	-
	V.sol	1420	1552	-	1558	1450	-
	Auteurs	I. G. Russu *et al.*			O. Necrasov		

Chez deux des squelettes ci-dessus, le massif facial, plus ou moins complet, est aussi présent: l'un est leptène et leptorhin (Solca), l'autre mézène et chamérhin (Gura Baciului). La mandibule du crâne de Bedehaza indique par sa largeur l'existence d'un mélange protoeuropoïde. La présence de cette composante est attestée par le crâne de Cioclovina dès le Paléolithique. On peut donc admettre qu'à l'origine de la structure anthropologique de certaines populations néolithiques anciennes se trouve certaines influences protoeuropoïdes (Necrasov, 1965).

Cependant, de point de vue typologique, chez les squelettes de la culture Starcevo-Criş, dominant est le type méditerranoïde, auprès duquel se conservent aussi certains caractères protoeuropoïdes atténués, comme l'on observe à Bedehaza, Cipău et Solca, auxquels nous allons ajouter aussi le type alpinoïde de Gura Baciului, qui conserve encore quelques caractères protoeuropoïdes. Selon O. Necrasov (1965), la calotte brachycrâne modérée de Gura Baciului doit sa conformation à la diminution du diamètre antéro-postérieur, l'occipital maintenant sa forme arrondie.

Le Néolithique récent (culture Petreşti) est représenté en Transylvanie par le squelette d'Ocna Sibiului, avec de traits méditerranoïdes, et par le squelette de Doboşeni (culture Cucuteni-Ariuşd), qui, par sa gracilité et la conformation de la calotte crânienne (débutante dolichocrâne et pas très haute) indique aussi la présence de traits méditerranoïdes (Cristescu, 1963; Necrasov, 1964).

L'Epoque du Bronze (1.800-1.200 av. J.-C.) est mieux représentée que celle néolithique car les documents ostéologiques appartiennent à des échantillons un peu plus nombreux, tels que ceux d'Ampoița (dép. d'Alba), Pir (dép. de Satu Mare), Cluj (rue Banatului), ainsi qu'à un groupe de squelettes datant du Bronze moyen (culture Otomani), qui ont été découverts à Sălacea et Otomani (dép. de Bihor) et à Sighişoara (dép. de Mureş) (tableau 3).

La série ostéologique d'Ampoița (dép. d'Alba) provient d'une période inférieure de l'Epoque du Bronze (culture Coțofeni) et se caractérise par la gracilité particulière des squelettes. Les crânes sont longs et étroits, avec des indices dolichocrânes, les malaires graciles et disposés en position intermédiaire, le nez droit et leptorhin, la mandibule gracile, la taille moyenne ou surmoyenne (tableau 3). Tous ces caràctères plaident en faveur de la prédominance de la composante méditerranoïde; il y a cependant dans certains cas aussi des mélanges avec certains traits protoeuropoïdes (Perianu, 1989).

L'analyse de la série de Pir (culture Otomani) par O. Necrasov et collab. (1966) a mis en évidence deux crânes très modérément dolichocrânes, deux crânes mésocrânes et trois crânes très modérément brachycrânes, tous donnant une moyenne générale débutante brachycrâne (indice 80, 15) (fig. 2, tableau 3). Le massif facial a un aspect gracile, la mandibule aussi, qui présente dans tous les cas un menton proéminent. La taille de deux squelettes de femmes est de 147 cm et 160 cm, et chez un troisième squelette, de sexe masculin, elle est de 166,6 cm. Sous l'aspect typologique ce petit échantillon présente des caractères avec prépondérance méditerranoïdes à côté de certains éléments prononcés alpins ainsi qu'atténués protoeuropoïdes.

Les crânes des squelettes de Sălacea, Otomani et Sighişoara (six au total) sont courts et étroits chez les hommes et longs et larges chez les femmes, donnant des indices majoritairement brachycrânes (dont un est hyper- et un autre ultrabrachycrâne). Deux autres crânes ont la conformation dolichocrâne et mésocrâne. La hauteur du neurocrâne est moyenne chez les deux sexes et par rapport aux diamètres horizontaux il résulte des indices vertico-longitudinaux hypsicrânes et vertico-transversaux tapéinocrânes. La taille est surmoyenne chex les hommes et moyenne chez les femmes. Associant ces traits et un certain degré de gracilité, rencontré aux squelettes de Sighişoara, on peut admettre que nous sommes en présence d'un fond alpino-méditerranoïde et d'éléments dinaroïdes de la variante balkanique, comme le soulignent Dardu Nicolaescu-Plopşor er collab. (1975).

A ces deux petites séries on peut ajouter les deux squelettes de Zăbala (dép. de Covasna) et Livezile (dép. d'Alba) attribués au Bronze inférieur (cultures pré-Schneckenberg et, respectivement, Coțofeni). Les calottes crâniennes des deux squelettes sont hautes, ayant une conformation dolicho-mésocrâne mais avec des diamètres horizontaux différents : le crâne de Zăbala long et étroit, le crâne de Livezile très long et large. Le squelette de l'individu de Zăbala est de taille moyenne (165,5 cm), tandis que sur le squelette de Livezile on précise que les

fragments des os longs et la mandibule sont particulièrement graciles. Du point de vue typologique, l'individu de sexe masculin de Zăbala est encadré par l'auteur (L. Georgescu, 1980) dans le type europoïde, tandis que celui de sexe féminin de Livezile dans le type méditerranoïde avec de faibles influences protoeuropoïdes (D. Botezatu, 1987).

A la période finale du Bronze (culture Noua-Teiuş) correspondent 13 squelettes en provenance de Cluj (rue Banatului) qui ont été analysés par I.G. Russu et collab. (1958). Il faut rappeler que de la collection de crânes il manque le massif facial, situation qui empêche la réalisation d'une étude typologique plus approfondie. En échange, les données complètes sur la forme du neurocrâne ont permis des observations intéressantes. Parmi les 13 calottes crâniennes 4 sont dolichocrânes, 4 mésocrânes et 5 brachycrânes (dont 3 hyperbrachycrânes). Vu la taille basse ou moyenne des brachycrânes et hyperbrachycrânes, on peut admettre qu'il y aurait un certain nombre de représentants du type alpin. Corrélant la taille à l'indice crânien chez les autres représentants de la série ostéologique, on peut estimer qu'une partie d'entre eux auraient appartenu au type méditerranoïde et une autre partie au type nordique ou protoeuropoïde. De l'analyse de ces squelettes il résulte qu'à la fin du Bronze en Transylvanie il apparaît un nombre de plus en plus grand de brachycrânes.

A cause de la pratique du rite d'incinération, l'Epoque du Fer est très peu représentée par des documents ostéologiques. Cependant certaines informations concernant la structure anthropologique des habitants du premier âge du Fer (Hallstatt, 1200-300 av. J.-C.) nous sont fournies par le squelette de Brătei (dép. de Sibiu) et par la petite série de Ciumbrud (dép. d'Alba). Le squelette du guerrier de Brătei, avec une massivité appréciable, a un crâne moyennement long et large, de hauteur moyenne, paramètres dont il résulte le complexe conformatif méso-ortho-tapéinocrâne (Necrasov, Botezatu, 1960).

Sur les dix crânes mesurables de la série de Ciumbrud, sept sont brachychânes (dont un ultra- et un autre hyperbrachycrâne). Toutes ces pièces osseuses sont attribuées au complexe culturel hallstattien d'influence scythe, considéré comme étant non uniforme sous aspect anthropologique, vu que l'on y rencontre tant des brachycrânes que dolicho-mésocrâanes (Necrasov, 1973).

Le deuxième âge du Fer (La Tène, 450-300 av. J.-C.) est représenté en Transylvanie par le seul matériel osseux découvert dans le cimetière biritual de Soporul de Câmpie. Les deux squelettes, un d'enfant et l'autre de femme adulte, datant des II^{e}-III^{e} siècles n.è., sont assez mal conservés, celui de la femme, mieux conservé, est assez gracile et a été attribué par I.G. Russu et collab. (1959) au type méditerranoïde.

La période des migrations et de début de l'époque féodale sur le territoire de notre pays commence après le III^{e} siècle de notre ère, lorsque nous rencontrons une puissante influence sarmate sur les tribus libres de Daces (par exemple, les Carpes); c'est toujours dans cette période que l'on a découvert de nombreuses déformations crâniennes appartenant aux nouveaux venus (tableau 4).

Tableau 3

№ Martin	Culture	Pre-Schneckenberg	Coţofeni							Otomani				Culture scythe
				Ampoiţa *				Pir		Sălacea (1 ♂ + 2 ♀) * Otomani (1 ♀) Sighişoara (1 ♂ + 1 ♀)				
				Hommes		Femmes								
	Caractère	Zăbala B(35-45 ans)	Livezile F (35-40)	N	X	N	X	N	X	N	X (♂)	N	X (♀)	Brătei B (50 ans)
1	g-op	194	189	4	194,0	4	185,0	7	172,8	2	175,0	4	176,5	186
8	eu-eu	145	142	3	135,0	5	133,0	7	138,4	2	148,5	4	144,8	147
9	ft-ft	97	108	4	100,5	5	92,4	6	97,4	2	103,0	4	94,0	97
20	po-b	119	116	1				5	111,7	2	116,8	4	111,8	116
45	zy-zy	130	-	1	125,0	1	116,0	4	128,0	2	134,0	4	123,8	142
47	n-gn	121	-	2	114,5	-	-	3	111,7	2	115,0	4	101,5	130
48	n-pr	66	-	2	70,5	-	-	4	65,0	2	69,5	4	61,0	79
54	al-al	28	-	2	24,0	1	20,0	-	-	2	25,0	4	23,1	27
55	n-sn	53	-	2	53,5	-	-	4	49,3	2	50,3	4	49,6	56
66	go-go	88	-	3				1	91	2	103,3	4	89,4	105
8/1	I.cr.	74,7	75,1	3	70,7	4	71,7	7	80,2	2	85,1	4	82,9	79,0
9/8	I.f.p.	66,9	76,1	3	73,3	5	69,7	6	70,4	2	67,4	4	66,7	65,9
20/1	I.v.l.	61,3	61,4	4				5	61,9	2	66,9	4	63,6	62,4
20/8	I.v.t.	82,1	81,6	-	-	-	-	5	77,8	2	78,7	4	78,2	78,9
47/45	I.f	93,07	-	1	89,6	-	-	3	81,3	2	84,2	4	82,9	91,6
48/45	I.f.sup.	50,7	-	1	55,2	-	-	4	51,4	2	49,9	4	50,3	55,6
54/55	I.n.	52,8	-	2	44,9	-	-	4	48,6	2	51,7	4	45,9	48,2
45/8	I.p.j.	89,7	-	1	93,9	1	87,9	4	94,4	2	90,7	4	86,3	96,6
	V. sol	165,5	-	-	-	-	-	-	-	2	168,3	4	153,4	-
	Auteurs	L.Georgescu	D.Botezatu *et al.*	M. Perianu				O.Necrasov *et al*		D. N. Plopşor W. Wolski				O.Necrasov D.Botezatu

L'époque du Bronze

L'époque du Fer

* Voir l'explication du tableau 4.

Tableau 4

Premier millénaire de notre ère

№ Martin	Localite / Caractère	Rugăneşti (III^e-IV^e s) F (≈ 35 ans)	Sântana de Mureş * (III^e-IV^e s) Hommes N	Sântana de Mureş * (III^e-IV^e s) Hommes X	Sântana de Mureş * (III^e-IV^e s) Femmes N	Sântana de Mureş * (III^e-IV^e s) Femmes X	Sânmiclăuş (V^e s.) Hommes N	Sânmiclăuş (V^e s.) Hommes X	Sânmiclăuş (V^e s.) Femmes N	Sânmiclăuş (V^e s.) Femmes X	Ocna Sibiului (VIII^e-IX^e s.) Femme (30-35)	Ocna Sibiului (VIII^e-IX^e s.) Femme (45-50)	Sălacea (X^e s.) Homme (50-60)	Sălacea (X^e s.) Femme (30-35)	Blandiana * (X^e s.) Hommes N	Blandiana * (X^e s.) Hommes X	Blandiana * (X^e s.) Femmes N	Blandiana * (X^e s.) Femmes X
1	g-op	174	9	194,8	8	181,6	10	181,7	3	167,3	-	190	188	172	1	188	3	187,7
8	eu-eu	137	10	144.4	8	134,0	10	139.8	3	134,7	138	142	142	140	1	145	3	131
9	ft-ft	94	8	98.0	7	99,3	8	98,4	4	93.5	94	-	110,5	95,5	1	100	3	94,7
20	po-b	115	6	118.0	8	113,0	6	117,7	3	117,7	94	116	115	104	1	109	3	112
45	zy-zy	130	1	127,0	3	120,0	1	129	2	126	-	-	130	124	-	-	2	122
47	n-gn	-	-	-	-	-	1	109	2	104	-	-	114,5	103,5	-	-	1	113
48	n-pr	-	3	70,7	5	65,0	1	65	2	67	-	-	67	60	1	74	1	71
54	al-al	27	-	-	-	-	3	24,0	2	27	-	-	28	24,5	1	22	-	-
55	n-sn	57	-	-	-	-	3	51,0	2	53	-	-	49,5	45,5	1	55	-	55
66	go-go	-	5	97,0	6	105,6	-	-	-	-	-	-	94	86	-	-	1	96
8/1	l.cr	78.4	9	74,4	8	73,8	9	76.5	3	80,5	-	74,7	75,5	81,4	1	77,1	3	69,8
9/8	l.f.p.	68,6	-	-	-	-	8	69,8	3	69,0	68,1	-	77,8	67,9	1	68,9	3	69,9
20/1	l.v.l.	66,0	6	60,9	8	62.2	6	64,0	3	70,3	-	61,05	61,2	60,5	1	57,9	3	59,7
20/8	l.v.t	83.9	6	83,3	8	84.4	6	82,7	3	87,5	68,1	81,7	80,9	74.3	1	75,2	3	85,5
47/45	l.f	-	-	-	-	-	1	84,5	2	82,5	-	-	88,8	83,5	-	-	1	91,1
48/45	l.f.sup.	-	1	51,9	3	53,6	1	50,4	2	53,2	-	-	51.5	48,4	-	-	1	57,3
54/55	l n.	47,4	-	-	-	-	3	47,1	2	50,9	-	-	56,6	53,4	1	40,0	-	-
45/8	l.p.j.	94,9	-	-	-	-	1	92,1	2	96.9	-	-	91,6	88,6	-	-	-	-
	V sol	157,3	-	-	-	-	4	166.5	2	166,0	151,5	156,0	165,5	158,0	-	-	-	-
	Auteurs	L.Georgescu	I.G. Russu *et al.*				D. Botezatu *et al.*				D. Nicolaescu-Plopşor, W. Wolski				I.G. Russu *et al.*			

* Pour rendre les séries ostéologiques comparables, lorsque les auteurs ont présenté les squelettes cas par cas, nous avons ajouté aussi les moyennes pour tout l'échantillon.

Au IV^e siècle de notre ère apparaissent sur le territoire de notre pays les Goths ainsi que de petits groupes d'Álans nomades. De la symbiose daco-romaine-alano-gothique il résultera le complexe culturel Sântana de Mureş (Rusu et collab., 1961). Les particularités anthropologiques de ce complexe culturel indiquent un mélange entre la population locale et les nouveaux venus, mélange auquel on peut attribuer une partie des squelettes de type méditerranoïde qui ne présentent pas de déformations macrocéphales (Necrasov, 1973). Pour cette période également, O. Necrasov souligne que les squelettes de Huns et d'Avars ne présentent pas toujours de traits mongoloïdes. Par exemple, le guerrier avar de Brătei est du type europoïde (Necrasov, 1965) tout comme les six squelettes avars découverts à Gâmbaşul de Mureş et étudiés par I.G.Russu et collab. En échange, les deux squelettes gépides de Cipău, selon l'opinion de Dardu Nicolaescu-Plopşor et W. Wolski présentent certains caractères mongoloïdes dissociés (Wolski, Nicolaescu-Plopşor, 1972).

Les squelettes découverts à Sânmiclăuş (11♂ et 3♀) appartiennent à la période postromaine (V^e siècle n.è). Le neurocrâne de ces individus est, en général, moyennement long chez les hommes et court chez les femmes, et en rapportant le diamètre transversal à celui longitudinal il résultera un indice moyen mésocrâne pour le groupe masculin (76,5) et débutant brachycrâne pour le groupe féminin (80,5). L'indice porio-bregmatique longitudinal est en moyenne hypsicrâne, quel que soit le sexe, tandis que celui transversal s'inscrit dans la catégorie métriocrâne chez les hommes et acrocrâne chez les femmes. L'occipital a une forme bombée et le massif facial est de dimensions moyennes (indices mésènes et mésoprosopes). Sous l'aspect typologique, la série de Sânmiclăuş se caractérise par un mélange d'éléments méditerranoïdes et alpins, auxquels on peut ajouter, en toute probabilité, certains traits protoeuropoïdes atténués (Botezatu et collab., 1994).

Sur le petit nombre de squelettes de Blandiana (X^e siècle), trois indiquent le sexe féminin et un celui masculin. Les crânes féminins ont un aspect gracile et une conformation dolicho-tapéino-chamécéphale, tandis que la calotte masculine, plus massive, est méso-tapéino-chamécéphale. Sous l'aspect typologique, les femmes présentent des caractères méditerranoïdes et les hommes un mélange de traits nordiques et méditerranoïdes (Rusu et collab., 1965).

Quant aux populations rencontrées à la fin du premier millénaire et au début du deuxième, auxquelles appartient la nécropole de Biharia (XI^e–XII^e siècles), on peut affirmer qu'elles manifestent une tendance plus accentuée vers la brachycéphalisation, le fond étant encore méditerranoïde près duquel apparaissent aussi quelques éléments protoeuropoïdes et nordiques (Necrasov, 1973).

La période féodale et moderne est le mieux représentée tant par le nombre de nécropoles que par celui des squelettes découverts. Pour se former une image d'ensemble, il suffit de rappeler les séries de: Sântion (XI^e–XV^e s.), Dealul Viilor – Sighişoara (XI^e s.), Zăbala et Peteni (XII^e s.), Rodna (XII^e–XIII^e s.), Moreşti (XII^e–XVII^e s.), Cuhea – Maramureş (XIV^e s.), Sânnicolau de Beiuş et Voivozi (XI^e–XIV^e et XVII^e–XVIII^e s.), Giuleşti – Maramureş (XIV^e– XIX^e s.) et Strei – Haţeg (XV^e– XIX^e s.) (tableau 5).

Tableau 5

Deuxième millénaire de notre ère

№ Martin	Localité	Sântion * (XI^{e} s.)				Dealul Viilor (XI^{e} s.)				Zăbala (XII^{e} s.)				Peteni (XII^{e} s.)				Sânnicolau de Beiuş (XI^{e} – XIV^{e} s.)				Sânnicolau de Beiuş (XVII^{e} – XVIII^{e} s.)				Voivozi XII^{e} – XIV^{e} s.	Cuhea * (XIV^{e} s.)				Giuleşti * (XIV^{e} – XIX^{e} s.)				Strei * (XV^{e} – XIX^{e} s.)			
		Hommes		Femmes		Hommes		Femmes		Hommes		Femmes		Hommes		Femmes		Hommes		Femmes		Hommes		Femmes		Hommes	Hommes		Femmes		Hommes		Femmes		Hommes		Femmes	
	Caractère	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X	N	X
1	g-op	3	191,0	2	178,0	11	185,4	5	177,0	26	181,1	12	181,8	12	185,9	13	183,8	43	187,3	43	176,1	9	184,9	10	171,0	6	187,8	5	181,0	3	178,0	15	183,6	6	175,7	6	187,3	3	172,3
8	eu-eu	3	139,0	2	142,0	12	139,4	5	130,4	26	143,7	13	137,6	13	141,1	14	139,9	43	145,0	43	144,0	9	146,1	10	144,4	6	149,4	6	144,3	3	139,3	15	145,0	6	141,7	6	140,0	3	139,3
9	ft-ft	2	95,5	1	91,0	10	100,9	4	98,4	26	99,3	13	94,2	14	97,1	15	96,0	44	99,3	41	98,0	8	100,9	9	97,7	6	103,3	5	96,0	3	91,0	15	100,5	4	94,8	7	100,3	3	96,0
20	po-b	3	111,3	2	108,5	-	-	-	-	26	113,5	13	111,6	12	109,3	16	110,3	38	115,0	41	112,0	9	115,7	9	111,3	4	118,0	6	112,2	3	110,3	15	114,2	5	114,4	6	114,7	4	109,3
45	zy-zy	1	130,0	2	130,0	-	-	-	-	26	126,8	12	129,2	12	133,9	13	130,5	33	134,4	30	132,8	7	138,5	5	128,6	4	141,5	2	132,5	2	119,0	10	135,7	-	-	4	132,3	2	126,0
47	n-gn	1	111,0	1	97,0	-	-	-	-	15	114,9	9	105,8	11	117,2	13	109,5	25	118,4	18	107,7	4	120,3	6	107,3	2	111,3	3	113,7	2	106,0	10	115,3	-	-	6	118,5	2	102,5
48	n-pr	1	65,0	2	59,0	-	-	-	-	19	70,7	11	62,6	10	70,3	14	73,6	28	71,4	26	65,0	7	71,0	6	63,7	4	70,8	3	66,3	2	63,0	10	68,1	-	-	6	69,7	2	61,0
54	al-al	1	24,0	2	25,5	-	-	-	-	-	-	-	-	-	-	-	-	30	25,4	28	24,4	7	27,0	6	23,3	5	26,5	3	25,3	2	22,5	9	25,7	-	-	6	24,2	3	24,0
55	n-sn	1	50,0	2	44,5	-	-	-	-	-	-	-	-	-	-	-	-	28	53,2	28	48,9	7	50,2	6	48,3	4	51,5	3	50,0	2	46,5	9	51,8	-	-	6	51,7	2	46,5
66	go-go	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	104,6	26	93,7	6	109,0	4	96,7	2	103,0	2	102,5	2	91,0	-	-	-	-	5	110,7	3	97,3
8/1	l.cr.	3	72,7	2	77,5	10	75,7	5	73,5	26	77,7	11	75,8	13	73,7	10	78,2	42	77,5	43	80,8	9	79,2	10	84,5	6	79,8	5	79,2	3	78,3	14	78,5	5	81,7	5	75,5	2	81,5
9/8	l.fp.	2	66,1	1	63,2	10	71,7	5	75,1	26	69,1	13	68,5	15	68,6	11	67,3	42	68,9	41	68,5	8	68,7	8	67,8	4	68,7	5	67,4	3	65,0	15	68,9	4	67,1	5	70,7	2	67,5
20/1	l.v.l	3	58,3	2	61,1	-	-	-	-	26	60,9	11	61,7	13	58,9	11	60,1	37	61,6	41	63,5	9	62,6	10	65,3	4	62,2	5	61,6	3	62,0	14	62,9	5	66,1	6	62,6	3	64,2
20/8	l.v.t.	3	80,4	2	76,4	-	-	-	-	26	79,3	13	81,1	14	78,1	11	78,2	37	79,8	41	78,7	9	78,5	10	77,1	4	81,5	5	77,9	3	79,2	12	79,0	5	80,6	5	81,1	3	77,3
47/45	l.f	1	84,6	1	69,3	-	-	-	-	14	83,6	9	81,9	11	85,8	10	85,2	23	87,7	19	84,9	4	84,6	5	84,0	2	78,7	2	85,9	2	83,4	8	88,3	-	-	4	93,4	2	81,4
48/45	l.f.sup.	1	50,0	2	45,6	-	-	-	-	19	55,8	10	48,5	11	52,9	10	55,8	26	52,8	27	50,7	6	50,9	5	50,2	4	50,2	2	51,1	2	49,1	8	50,8	-	-	4	53,8	2	48,0
54/55	l.n.	1	48,0	2	57,2	-	-	-	-	19	49,1	12	51,5	14	51,4	11	51,9	28	47,9	27	50,1	7	52,7	6	48,3	4	53,4	3	51,1	2	48,8	8	49,8	-	-	6	46,9	2	51,8
45/8	l.p.j.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	92,4	29	88,8	6	94,2	5	89,1	4	94,1	-	-	-	-	10	93,2	-	-	5	91,9	2	88,2
	V. sol	-	-	-	-	13	165,4	9	156,9	-	-	-	-	27	168,4	33	164,5	61	168,0	39	154,8	12	167,8	9	155,1	5	166,1	3	170.1	2	150,7	-	-	-	-	-	-	-	-
	Auteurs	C. Maximalian				C. Bălteanu				L. Georgescu								I. Popovici - Bădărău										I. Popovici									

*Voir l'explication du tableau 4.

Le petit échantillon de Sântion (XI^{e}–XV^{e} s.), formé de 5 squelettes seulement, s'étend sur une période de quatre siècles, de sorte que sa valeur anthropologique doit être appréciée dans le contexte d'autres découvertes qui correspondent au même intervalle de temps. Nous rappelons cependant que sur les cinq calottes crâniennes, quatre sont dolicho-mésocrânes et une est brachycrâne (Maximilian, 1961).

Un peu plus nombreuse apparaît la série de Dealul Viilor – Sighişoara (XI^{e} s.), formée de 22 squelettes de taille moyenne et surmoyenne et de crânes de catégorie mésocrâne chez les hommes et dolichocrâne chez les femmes. Selon l'opinion de C. Bălteanu (1994) cette série présente des caractères avec prédominance méditerranoïdes, mais aussi certains traits nordiques et est-europoïdes.

A la suite de l'analyse des deux échantillons, évidemment plus riches en squelettes, de Zăbala et Peteni, département de Covasna (XII^{e} s.) on peut aboutir à la conclusion que, sous l'aspect métrique et morphologique, les deux séries oscillent entre les mêmes limites de variabilité ; L. Georgescu (1981) les situe dans le grand groupe europoïde méso-dolicho-brachycrâne.

L'étude anthropologique du matériel ostéologique de Rodna (XII^{e}–XIII^{e} s.) s'est effectué sur un nombre de 11 squelettes dont 5 indiquent le sexe masculin et 6 celui féminin. Chez 9 individus on a pu calculer l'indice crânien, qui chez un des cas dépasse les limites de variation habituelles. Pour les 8 autres calottes crâniennes les indices obtenus sont: 2 mésocânes, 4 brachycrânes et 2 ultrabrachycrânes. Evaluant les caractéristiques anthropométriques et morphologiques, I.G. Russu et collab. (1961) sont arrivés à la conclusion que 3 individus sont de type méditerranéen, 6 de type alpin, et un présente des caractères qui peuvent être interprétés comme dinariques ou alpins.

Très intéressante apparaît la série de Moreşti (XII^{e}-XVIII^{e} s.), dont O. Necrasov (1973) affirme qu'elle peut être divisée en trois groupes : la première (XII^{e}-XIII^{e} s.) offrant un fond dinaroïde, la deuxième (XII^{e}-XVII^{e} s.) qui apparaît comme prédominante nordico-méditerranoïde, et la troisième (XVII^{e}-XVIII^{e} s.) présentant de nouveau un pourcentage élevé de dinariques.

Une observation semblable, qui pourrait suggérer l'apparition de certains traits dinariques, est rencontrée dans l'ouvrage de I. Popovici (1968) sur l'analyse des 14 squelettes de Cuhea – Maramureş (XIII^{e}-XIV^{e} s.). L'auteur montre que, à part leur caractère gracile, la taille sous-moyenne et la conformation crânienne avec prédominance dolicho-mésocrâne, il y a aussi 3 squelettes masculins qui font exception tant par leur robustesse que par la calotte brachycrâne, plus ou moins planoccipitale.

Les squelettes qui proviennent des cimetières féodaux de Sânnicolau de Beiuş et Voivozi, département de Bihor, peuvent être divisés également en 3 groupes: le premier (cimetière des XI^{e}–XIV^{e} s.) de Sânnicolau de Beiuş, est formé, selon l'opinion de I. Popovici (1982), d'un mélange de caractères atténués cro-magnoïdes ou nordoïdes, méditerranoïdes, ainsi qu'alpinoïdes; le deuxième groupe (cimetière des XVII^{e}-XVIII^{e} s.), toujours à Sânnicolau de Beiuş, correspond au

complexe eurodolichomorphe (cro-magnoïde gracilisé) à côté d'éléments alpinoïdes ; le troisième groupe (XII^{e}-XIV^{e} s.), de Voivozi, appartient de point de vue typologique au même complexe eurodolichomorphe (cro-magnoïde gracilisé) en présence duquel apparaît aussi la composante alpinoïde.

Le matériel ostéologique découvert dans la nécropole de Giuleşti – Maramureş (XIV^{e}-XIX^{e} s.) a été groupé par I. Popovici (1969) en deux catégories. Dans la première catégorie ont été inclus les squelettes datant des XIV^{e}-XVI^{e} s., qui se caractérisent par des calottes dolicho-mésocrânes, modérément longs et basses, étroites, ortho-tapéinocrânes, à l'occipital souvent bombé et visages moyens. Dans la deuxième catégorie ont été englobés les squelettes appartenant aux XV^{e}-XVII^{e} siècles, qui ont des calottes brachy-mésocrânes, plus volumineuses, hypsi-tapéinocrânes, à l'occipital quelquefois aplati, des visages plus large, le nez un peu plus long. A part les différences mentionnées plus haut, les deux catégories de squelettes ont une série de traits communs: taille moyenne, squelette postcrânien robuste, visages moyens, nez plutôt long, la mandibule communément ovale. La série entière présente certains éléments archéomorphes ou nordoïdes.

La petite série de squelettes féodaux de Strei – Haţeg (XV^{e}-XIX^{e} s.) est formée de 16 sujets, dont pour 13 seulement on a pu établir les indices crâniens (2 hyperdolichocrânes, 3 dolichocrânes, 6 brachycrânes, 2 hyperbrachycrânes). Conformément aux observations de I. Popovici (1973), faites sur cet échantillon, la calotte crânienne des hommes est ou bien longue et étroite, dolichoïde, modérément basse, à l'occipital arqué et au relief accentué, ou bien globulaire, faiblement mise en relief et avec la courbure occipitale atténuée. La moyenne de l'indice crânien chez les femmes est modérément brachycrâne (81,5). Chez les deux sexes, le visage est rectangulaire, haut, étroit, au profil droit et gonions puissants. Corrélant la taille (moyenne) aux traits de la calotte crânienne et du massif facial, on peut admettre qu'à Strei on est en présence d'une composante nordique ou/et robuste méditerranéenne à laquelle on peut associer aussi certains traits alpinoïdes. La brachycéphalisation et la tendance d'aplatissement de l'occipital, enregistrées ici, peuvent indiquer l'apparition de certains éléments de « dinarisation », qui, chez la population actuelle, se manifestent par une fréquente typologie spécifiquement dinarique.

Des recherches effectuées sur les populations anciennes de Transylvanie il résulte que pendant l'époque néolithique les tribus qui habitaient notre territoire se sont intégrées sous l'aspect anthropologique dans la grande masse méditerranoïde qui forme le fond principal des populations de la région carpato-danubienne et balkanique. A côté de la composante méditerranoïde ont été mis en évidence aussi quelques éléments atténués protoeuropoïdes et très rarement brachycrânes, au faciès plus fréquent alpinoïde (Necrasov, 1973).

Il faut souligner que la présence des brachycrânes au Néolithique a été sporadique. Pendant l'énéolithique, sous l'influence des « populations de steppe », tout comme plus tard, au début du premier millénaire de notre ère, le contact avec certaines populations migratoires renforce les caractères dolichoïdes, les nouveaux

venus étant plus dolichocrânes que les autochtones. Un nombre plus grand de brachycrânes se rencontrent à la fin de l'Epoque du Bronze (culture Noua-Teiuş) et au Premier Age du Fer (Hallstatt).

A partir du II[e] millénaire, particulièrement aux XIII[e]-XIV[e] siècles, l'on constate une croissance progressive de l'indice crânien, qui ne peut plus être mise au compte des éléments allogènes. Le fait est général, mais peut être démontré surtout sur les séries consécutives de squelettes du même endroit ou de la même localité, tels que ceux de la cour de l'église de Giuleşti - Maramureş, ou ceux des cimetières de Sânnicolau de Beiuş, où les recherches faites sur la population actuelle aussi montrent que le phénomène de la brachycéphalisation a subi une évolution continue jusqu'à nos jours.

Dans les séries médiévales étudiées, la brachycéphalisation se réalise soit par le raccourcissement du diamètre longitudinal de la calotte, soit par le rallongement du diamètre transverse, tout ceci étant accompagné également de l'aplatissement plus accentué de l'occipital, de la croissance en hauteur du neurocrâne, du massif facial et du nez, modifications qui peuvent être qualifiées de « dinarisation ».

L'apparition de ces modifications déterminera des transformations évidentes dans la structure anthropologique des populations qui, de prépondérantes méditerranoïdes aux époques anciennes, deviendront prépondérantes dinaroides (O. Necrasov) ou alpinoïdes avec certaines (vagues) réminiscences archéomorphes (I. Popovici) au fur et à mesure de l'évolution vers l'époque moderne.

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EVOLUTION OF LONGEVITY ALONG THE XXth CENTURY IN THE POPULATION OF RĂCHITENI AND MIRCEŞTI (IAŞI COUNTY)

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Starting from the data provided by the civil status files from the archives of the Mirceşti village, the average decease age, as well as mortality – on groups of age – at the level of each decade of the XXth century, were calculated, both separately, on sexes, and for both sexes considered together. The results obtained show that longevity increased from the first up to the last decade of the XXth century. The increase ratio differs slightly from one locality to another, and from one sex to another, as well. However, in both places, and for both sexes, the ratio is considerably higher for the 0-x years cohort (as a result of both the reduced mortality in younger generations and the increased mortality in older ones), comparatively with the 20-x years one (which results exclusively from the higher mortality in older generations).

INTRODUCTION

The average duration of life, calculated on the basis of the decease age, constitutes a very significant demographic index, reflecting, among others, the socio-economic level of a society.

MATERIALS AND METHOD

The material considered for the study was been taken over from the civil status files, kindly provided by the representatives of the Mirceşti village, Iaşi county.

Statistical processing of the material, according to the classical methodology [7], involved calculation of the frequency of deceases, on groups of age, as well as of the average decease age, both for the whole number of deceased and also separately, for the 20-x years cohort of deceased people, at the level of each decade of the XXth century. The results obtained are listed in Tables 1, 2 and 4.

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RESULTS AND DISCUSSION

Analysis of the evolution of mortality in time, on groups of age, evidences, as shown by the data recorded in Tables 1 and 2, that, generally, it follows a classical line. Indeed, if considering first the large groups of age (0-19, 20-59 and 60-x) in both villages, the curve of deceases in the 0-19 years group of age is, generally, descending in time, while that of the 60-x years group is, on the contrary, an ascending one. In the 20-59 years group of age, the modifications in time on the deceases' frequency are less important, an alternance being noticed, from one decade to another, between slight increases and, respectively, slight decreases.

A detailed analysis evidences that, in the first 5 decades, at Răchiteni and, up to the end of the 6th decade, at Mirceşti, respectively, mortality in the 0-19 years group of age is prevailing or, at least, of majority. Indeed, at Răchiteni, the frequency of deceases in this group of age varies, within this time interval, between 61% and 71% while, at Mirceşti between 51% and 64%.

As to its evolution in time, at Răchiteni, the frequency of mortality increases from the first to the fourth decade (*i.e.*, from 61.76 to 71.34), followed by a progressive decrease up to the present days, so that, in the last decade, the frequency of deceases records a percent value of only 3.72.

At Mirceşti, the frequency of deceases at the 0-19 years group evidences, after a diminution of about 6% from the first to the second decade, an increase of over 8% in the third one (when, actually, a maximum frequency of 64.84 is recorded) followed (with only one exception: the 1950-1959 decade), by a progressive reduction in time, up to the present days, when a 3.85% value is to be mentioned.

The observation should be made that the very ample reduction of the deceases' frequency in the 0-19 years group of age starts, at Răchiteni, in the 6th decade while, at Mirceşti, a decade later.

On analyzing the evolution of mortality in each of the 3 stages of age (0-1, 1-4 and 5-19) – components of the 0-19 years group – one may observe that, in both villages, the first position – as to frequency – is held by the mortality of 0-1 year old children, followed by the 1-4 years old ones, the last place being occupied by the 5-19 years group of age.

The time evolution of mortality in 0-1 year old children is slightly different from one village to another. Thus, at Răchiteni, the frequency of mortality increases from the first up to the fourth decade, when a maximum value of 41.15% is attained, followed by a progressive decrease up to the ninth decade, when the minimum of 0.79% is to be recorded, although the value of the last decade increases by 0.14%. At Mirceşti, the time evolution of mortality is less linear. Thus, from the first up to the end of the sixth decade, the observed increases and decreases alternate, a maximum frequency of 41.14 (equal to that of Răchiteni) being recorded in the 1920-1929 decade.

Table 1

Frequency of deceases on groups of age and decades along the XXth century, with the population at Mircești

Decades	Age	0-1 year	1-4 years	5-19 years	0-19 years	20-59 years	60-69 years	70-79 years	80-89 years	90-x years	60-x years
	Sex	1	2	3	4	5	6	7	8	9	10
1990-1999	M	3.95	-	-	3.95	26.31	21.05	22.37	22.37	3.95	69.74
	F	-	2.50	1.25	3.75	17.50	11.25	25.00	32.50	10.00	78.75
	T	1.92	1.28	0.64	3.85	21.79	16.02	23.72	27.56	7.05	74.36
1980-1989	M	-	-	1.78	1.78	28.57	12.50	37.50	17.86	1.78	69.64
	F	-	3.57	-	3.57	14.28	7.14	37.50	33.93	3.57	82.14
	T	-	1.78	0.89	2.68	21.43	9.82	37.50	25.89	2.68	75.89
1970-1979	M	7.89	2.63	-	10.53	18.42	21.05	28.95	18.42	2.63	71.05
	F	5.00	2.50	-	7.50	12.50	15.00	35.00	25.00	5.00	80.00
	T	6.41	2.56	-	8.97	15.38	17.95	32.05	21.79	3.85	75.64
1960-1969	M	17.65	-	7.84	25.49	21.57	29.41	21.57	1.96	-	52.94
	F	10.00	-	-	10.00	12.50	20.00	30.00	20.00	7.50	77.50
	T	14.28	-	4.39	18.68	17.58	25.27	25.27	9.89	3.29	63.73
1950-1959	M	37.93	14.65	7.75	60.34	10.34	16.37	9.48	3.44	-	29.31
	F	34.17	7.59	5.06	46.83	13.92	13.92	22.78	1.26	1.26	39.24
	T	36.41	11.79	6.66	54.87	11.79	15.38	14.87	2.56	0.51	33.33
1940-1949	M	28.75	12.08	10.83	51.66	28.33	7.50	7.08	5.00	0.42	20.00
	F	34.01	10.66	6.60	51.26	21.82	10.66	8.62	3.55	4.06	26.90
	T	31.12	11.44	8.92	51.48	25.40	8.92	7.78	4.34	2.06	23.11
1930-1939	M	34.12	19.25	12.16	65.54	19.93	5.07	5.75	3.38	0.33	14.52
	F	25.39	19.44	14.28	59.13	22.22	3.97	8.33	4.37	1.98	18.65
	T	30.11	19.34	13.13	62.59	20.98	4.56	6.93	3.83	1.09	16.43
1920-1929	M	39.64	9.25	13.66	62.55	22.47	7.49	4.40	3.08	-	14.98
	F	43.31	10.82	14.02	68.15	20.38	4.46	3.82	3.18	-	11.46
	T	41.14	9.89	13.80	64.84	21.61	6.25	4.17	3.13	-	13.54

(continues)

Table 1 (continued)

Decades	Sex	1	2	3	4	5	6	7	8	9	10
1910-1919	M	31 58	13 82	10 85	56 25	26 97	7 24	4 28	4 28	0 99	16 78
	F	24 92	19 86	11 45	65 23	27 61	7 07	4 04	3 70	1 35	16 16
	T	28 29	16 81	11 15	56 23	27 29	7 15	4 16	3 99	1 16	16 47
1900-1909	M	37 06	13 53	12 94	63 53	18 82	8 24	5 29	2 94	1 18	1 76
	F	30 76	18 59	11 54	60 90	18 59	8 97	7 05	1 28	3 21	20 51
	T	34 05	15 95	12 27	62 27	18 71	8 59	6 13	2 15	2 15	19 02
Total	M	30 36	12 07	10 29	52 73	22 74	9 59	8 70	5 46	0 76	24 52
	F	26 14	13 73	9 45	49 33	21 04	8 19	11 22	7 38	2 80	29 61
	T	28 41	12 84	9 90	51 16	21 96	8 94	9 87	6 35	1 70	26 87

Table 2

Frequency of deceases on groups of age and decades along the XXth century, with the population at Răchiteni

Decades	Age	0-1 year	1-4 years	5-19 years	0-19 years	20-59 years	60-69 years	70-79 years	80-89 years	90-x years	60-x years
	Sex	1	2	3	4	5	6	7	8	9	10
1990-1999	M	0 55	1 11	1 67	3 35	24 02	26 81	24 02	17 87	3 91	72 62
	F	1 39	1 39	1 39	4 19	13 98	18 88	28 67	32 16	2 09	81 81
	T	0 93	1 24	1 55	3 72	19 56	23 29	26 08	24 22	3 10	76 70
1980-1989	M	-	6 10	4 58	10 68	29 77	12 21	29 00	17 55	0 76	59 54
	F	1 66	3 33	0 83	5 83	14 16	18 33	36 66	21 66	3 33	80 00
	T	0 79	4 78	2 78	8 36	22 31	15 13	32 66	19 52	1 99	69 32
1970-1979	M	8 33	3 33	2 50	14 16	12 50	16 66	38 33	18 33	-	73 33
	F	6 66	3 80	5 71	16 19	9 52	19 04	37 14	16 19	1 90	74 28
	T	7 55	3 55	4 00	15 11	11 11	17 77	37 77	17 33	0 88	73 77
Decades	Age	1	2	3	4	5	6	7	8	9	10
1960-1969	M	18 81	2 97	3 96	25 74	28 71	14 85	22 77	7 92	-	45 54
	F	18 07	1 20	-	19 27	12 04	10 84	33 73	22 89	1 20	68 67

(continues)

Table 2 (continued)

	T	18 47	2 17	2 17	22 82	21 19	13 04	27 71	14 67	0 54	55 97
	M	31 62	4 27	5 12	41 02	23 93	15 38	15 38	3 41	1 85	35 04
1950-1959	**F**	22 41	5 17	4 31	31 89	23 27	17 24	16 37	10 34	0 86	44 82
	T	27 03	4 72	4 72	36 48	23 60	16 30	15 87	6 86	0 85	39 91
	M	39 75	13 93	6 55	60 24	23 36	5 32	7 78	3 27	-	16 39
1940-1949	**F**	35 44	17 46	8 99	61 90	12 69	10 05	12 16	2 11	1 05	25 39
	T	37 87	15 47	7 62	60 96	18 70	7 39	9 69	2 77	0 46	20 32
	M	46 06	21 81	7 87	75 75	10 90	6 06	4 84	2 42	-	13 33
1930-1939	**F**	36 19	25 15	5 52	66 87	12 26	7 97	7 97	3 68	1 22	20 85
	T	41 15	23 47	6 70	71 34	11 58	7 01	6 49	3 04	0 60	17 07
	M	37 89	17 87	6 25	61 32	24 60	8 20	4 29	1 17	0 39	14 06
1920-1929	**F**	45 45	16 36	7 27	69 09	12 72	6 06	8 48	3 63	-	18 18
	T	40 85	16 86	6 65	64 37	19 95	7 36	5 93	2 13	0 23	15 67
	M	35 37	14 41	8 29	58 07	28 38	6 98	4 36	2 18	-	13 53
1910-1919	**F**	34 39	17 98	12 16	64 55	19 04	6 34	4 76	3 70	1 58	16 40
	T	34 92	16 02	10 04	61 00	24 16	6 69	4 54	2 87	0 71	14 83
	M	34 81	18 51	8 88	62 22	19 25	11 85	13 33	0 74	1 48	18 51
1900-1909	**F**	31 06	20 38	9 70	61 16	30 09	3 88	1 94	1 94	0 97	8 73
	T	33 19	19 32	9 24	61 76	23 94	8 40	3 36	1 26	1 26	14 28
	M	27 72	11 56	5 84	45 14	22 83	11 50	13 23	6 55	0 71	32 02
Total	**F**	25 43	12 57	6 17	44 18	15 69	11 33	16 86	10 53	1 38	40 11
	T	26 69	12 02	5 99	44 71	19 62	11 43	14 87	8 35	1 01	35 66

Table 3

Evolution of the infantile mortality index in the XXth century with the Mircești and Răchiteni populations

Decades	1900-1909	1910-1919	1920-1929	1930-1939	1940-1949	1950-1959	1969-1969	1970-1979	1980-1989	1990-1999
Mircești val. index ‰	249.44	295.65	254.84	190.09	249.54	179.29	47.62	16.78	-	17.96
Răchiteni val. index ‰	218.23	271.88	247.12	180.48	218.66	73.51	33.36	32.50	6.07	9.96

Table 4

Evolution of the average age of decease (in years) along the XXth century, with the populations of Mircești and Răchiteni

Decades	Sex	1900-1909	1910-1919	1920-1929	1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999
MIRCEŞTI											
0 - x years	M	23.45	26.10	22.05	20.69	28.40	27.40	48.20	60.80	66.80	64.25
	F	24.90	25.35	18.55	25.40	31.00	35.15	66.85	67.60	72.25	72.55
20- x years	M	57.15	54.35	51.55	54.41	53.45	64.15	62.35	67.65	67.85	66.80
	F	57.25	52.60	49.20	55.70	59.35	62.95	74.00	72.90	74.80	75.25
RĂCHITENI											
0 - x years	M	24.20	23.20	21.55	16.80	23.20	38.40	48.05	61.20	59.80	66.15
	F	20.60	22.65	21.15	22.15	25.60	43.60	58.35	61.60	68.50	70.20
20 -x years	M	57.90	50.20	47.40	58.40	53.05	62.55	62.70	70.65	66.05	68.10
	F	47.40	56.40	60.85	60.40	61.35	62.35	72.70	72.45	72.15	73.00

In the following three decades, the decrease of mortality is ample and progressive, the frequency of deceases being even zero in 1980-1989, although, in the last decade, it attained a value of 2%.

The evolution of 0-1 year old children's mortality is well illustrated, too, by the values of the infantile mortality index. Indeed, as demonstrated by the data given in Table 3, the maximum values of this parameter occur, in both localities, in the second decade, which is the time of the first World War. In the following two decades, the values of the infantile mortality index decrease, then increase again in the fifth decade, a tendency which coincides with the period of the second World War.

From the year 1950 on, an ample and progressive diminution in time is noticed up to the end of the last-but-one decade, while, in the last decade, a new increase, of about 4‰ at Răchiteni and 18‰ at Mirceşti, is to be observed.

Increase of infantile mortality in the last decade is the result of the precarious socio-economic conditions characterizing the transition period following December 1989.

Mention should be made here of the fact that the values of the infantile mortality index are higher at Mirceşti than at Răchiteni, with the exception of the 1970-1979 and 1980-1989 decades. The complete reduction of infantile mortality at Mirceşti in the 1980-1989 decade is surprising, if considering the scarce economic and social conditions of that time, which made the authors believe that some deceases of children younger than 1 year could have been nonregistered, once known that, in such situations, the pediatrists were drastically punished.

As to the mortality of 1-4 years old children, the highest percent value, *i.e.*, of 23.46 at Răchiteni and 19.34, respectively, at Mirceşti, is registered, in both localities in the 1930-1939 decade, which is followed by a reduction up to a value slightly above 1% (more exactly, 1.28 at Mirceşti and 1.24 at Răchiteni, respectively) in the last decade.

In children, teen-agers and 5-19 years old young ones, mortality decreases in time, too, varying between a maximum frequency of 10.04 at Răchiteni (value recorded in the second decade) and 13.80 at Mirceşti (in the third decade), and a minimum one of 1.55, in the former village (recorded in the last decade) and of 0.80%, or even of 0.00%, respectively, in the latter village, in the last three decades.

The curve plotting the variability of mortality in people older than 60 years is slightly different in the two communities.

Thus, at Răchiteni, the frequency of deceases increases linearly from the first (when a 14.28% value is recorded) up to the end of the eighth decade (when the value recorded is around 74%), however the increase is slow up to the end of the fifth decade, after which it becomes very ample. Along the 1980-1989 decade, a slight reduction in the frequency of deceases (of about 4%) is observed, followed by another increase, of about 7%, in the last decade, when actually a maximum frequency of 76.70 is recorded.

At Mirceşti, mortality is slightly decreasing from the first decade up to the end of the third one, a period followed by a continuous increase until the end of the ninth decade, a slight decrease being recorded, again, in the last decade.

In this case, too, the most ample increase occurs between decades six and eight, which actually coincides with the improvement of the economic conditions, the hygienico-sanitary ones, especially.

On analysing the evolution of mortality for each of the age stages (60-69 years, 70-79 years, 80-89 years and 90-x years) – components of the 60-x years group –, slight differences may be observed, too, between the two communities. If, with only a few exceptions, in the first six decades, mortality is slightly higher, in both localities, in the 1960-1969 decade of age, comparatively with the 70-79 years one, starting with the 7th decade, at Răchiteni, and a decade later, at Mirceşti, mortality is clearly higher in the 70-79 years old people, comparatively with the 60-69 year ones.

The mortality of octogenarians records a significant increase starting with the sixth decade, at Răchiteni, and a decade later, at Mirceşti, so that, in the last decade, their percent ratio, comparatively with the 70-79 years old people, is about 2% lower in the former locality, and about 4% higher in the latter. Against this background, mention should be made here of the fact that, while the curve of octogenarians' mortality increases linearly until the last decade, in both villages, the mortality curve plotted for the 70-79 years old people is amply diminishing, in the last decade at Mirceşti (from 37.50 to 23.72) and in the last two decades at Răchiteni (from 37.7 to 26.08).

At the same time, one should notice an about 7-8%, higher mortality of the 60-69 years old people in the last decade, in both localities.

As to the mortality of people older than 90 years, this is quite low, the frequency of deceases never exceeding a value of 3%, with the exception of the last decade, at Mirceşti, where a value up to 7% was recorded.

The evolution, in time, of mortality at the 20-59 years group of age evidences the same behaviour as the one manifested in all the populations taken into study [1, 2, 4, 8], *i.e.*, it alternates from one decade to another, instead of increasing or decreasing linearly. Nevertheless, worth mentioning is the fact that the highest value of the frequency of mortality recorded for this group of age appears in the first two decades at Răchiteni (around 24) and, in the second decade, at Mirceşti (27.61), the lowest value, of about 11%, being registered at Mirceşti in the sixth decade and at Răchiteni in the fourth and eight decades. Also, in decade 2, as well as in decade 5, the time of the two World Wars, mortality of this group of age increased, especially in the case of men, which is quite easy to explain

The differences recorded between the two sexes involve a generally higher ratio of mortality in males, comparatively with females, for the 0-19 years and 20-59 years groups of age and, on the contrary, higher in females for the 60-x years group of age. One should also mention here the fact that, while sexual dimorphism is better expressed at Mirceşti than at Răchiteni, for the 0-19 years and 20-59 years groups of age, respectively, for the 60-x years group it is, reversely, more obvious at Răchiteni than at Mirceşti.

Women's higher longevity *versus* men, is also well expressed by the values of the average age of decease which, with only a few exceptions, are higher in the former case, comparatively with the latter, along the whole XXth century.

Analysis of the evolution, in time, of the average age of decease in the 0-x years cohort of deceased people (Table 4) evidences that, in males, it decreases linearly (Răchiteni) or less linearly (Mirceşti) from the first to the fourth decade, when minimum values of 16.80 years, at Răchiteni, and of 20.69, at Mirceşti, are recorded.

Starting with the fifth decade, a significant increase of the average age of decease was noticed in both localities, however, while at Răchiteni this increase is progressive and linear (a slight reduction of 1.40 years being recorded in the ninth decade) up to the last decade, when a maximum value of 66.15 is registered, at Mirceşti, instead, the average decease age decreases with one year in the decade 1950-1959, after which it increases linearly until the end of the decade 1980-1989, when the maximum value of 66.80 is recorded, to be followed, in the last decade, by a decrease with 2.55 years.

In the case of women, if the minimum values of the average decease age appear in different decades in the two localities (*i.e.,* 20.60 years in the first decade at Răchiteni and 18.55 years in the third one at Mirceşti), their evolution in time is not different in the two villages. Indeed, in both of them, after a slight increase of the average decease age from the first to the second decade, followed by a reduction in the third one (hardly significant at Răchiteni, yet more important at Mirceşti), a progressive and linear increase is to be observed until the last decade, when maximum values – of 70.20 at Răchiteni and of 72.55, respectively, at Mirceşti – occur.

As to the growing rhythm of the average decease age in the 0-x year cohort of deceased people, it takes values around 49 years, for both sexes, at Răchiteni, but of 46 years in males and, respectively, 54 years, in females, at Mirceşti. As a matter of fact, one should mention that, in both localities, the maximum values are higher in females than in males although, while the women of Mirceşti have an about 2 years older age of decease, comparatively with the women of Răchiteni; in the case of men, the maximum ages of decease are approximately equal, yet they are recorded in different decades. As to the minimum values of the average decease age, they are lower in males than in females, at Răchiteni, and, on the contrary, lower in women than in men, at Mirceşti.

In the 20-x years cohort of deceased people, the minimum values of the average decease age are recorded in the third decade, with the exception of the feminine cohort from Răchiteni, where, as in the case of the 0-x years cohort, the average minimum age is recorded in the first decade; at the same time, the minimum values are lower for both sexes at Răchiteni (the average values being of 47.70 years in both sexes), comparatively with Mirceşti (49.20 years in women and 51.55 years in men). Nevertheless, the maximum values are higher in the case of women than in men, in both localities, being higher in the women of Mirceşti, comparatively with those of Răchiteni (*i.e.,* 75.25 years *versus* 73), and higher in the men of the latter village, *versus* the former (70.65 years *versus* 67.85 years).

As to the time evolution of this parameter, generally, an increase – which is not perfectly linear – should be mentioned. The maximum average ages are registered for the feminine cohorts, in the last decade, while for the masculine ones – in the decade 1970-1979 at Răchiteni and, 1980-1989, respectively, at Mirceşti. In the last decade, the longevity of the men in Mirceşti decreases by about 1 year, comparatively with the preceding decade, while, at Răchiteni, it increases by about 2 years *versus* the preceding decade, being nevertheless 2.5 years lower comparatively with the 1970-1979 decade. The growing rhythm of the average decease age in the 20-x years cohort of deceased ones is half, or even less than half of the value recorded for the 0-x years cohort of deceased people. There results from here that the most significant contribution to an increased longevity is brought by the lower mortality of the younger generations, the infantile one firstly, to which there should be added the increase – recorded in the last decades – of the mortality in people older than 70 years.

CONCLUSIONS

Analysis of the time evolution, of both the frequency of deceases on groups of age, and average decease age, evidences that the longevity of the populations under study increased from the first to the last decade of the XXth century. Indeed, the mortality of younger generations (0-19 years) decreased from around 60% (more precisely, 61.76 at Răchiteni and 62.27, respectively, at Mirceşti) in the first decade, to 3.80 in the last one (3.71 in the former village and 3.85 in the latter), while that of the older than 60 years ones increased from 14.28 at Răchiteni and 19.02 at Mirceşti, in the first decade, to 76.40 and 74.36, respectively, in the last one – the highest number of deceases being recorded in people over 80 years.

Actually, on analyzing the evolution of mortality's weight in the groups of age: 60-69 years, 70-79 years and over 80 years, comparatively with the whole 60-x years stage, one may observe that, in the first decade, the first place, as to its frequency, is held by the deceases at 60-69 years (58.82 at Răchiteni and 45.16 at Mirceşti), followed by the ones at 70-79 years (23.52 and 32.26, respectively, and by the ones recorded in the group over 80 years (17.64 and, respectively, 22.58). In decades 1960-1969, at Răchiteni and 1970-1979, at Mirceşti, the highest number of deceases appears in the 70-79 year group of age, followed, in a decreasing order, by the deceases in people older than 80, and by the ones with ages between 60-69 years.

Nevertheless, in the last decade, the highest mortality was registered in people older than 80, who represent 35.62 at Răchiteni, comparatively with 34% at 70-79 and, respectively, 30.36 at 60-69, and 46.55 at Mirceşti, *versus* 31.90 at 70-79 years and 21.55 at 60-69 years.

This situation is well illustrated, too, by the time evolution of the average decease age. Indeed, it increases in the 0-x years cohort of deceased people, from the first to the last decade, in the masculine series by 40.80 years at Mirceşti and 41.95 years, respectively, at Răchiteni, while in the feminine series by 47.65 years in the former locality and by 49.60 years, respectively, in the latter one.

In the 20-x years cohort of deceased people, the increase is less spectacular (around 10 years in the masculine series of both localities but 18 years in the feminine series, at Mircești and with 25.60 years, at Răchiteni), being mainly explained by the modifications in the number of the above-mentioned deceases, recorded between the sub-groups of age: 60-69 years 70-79 years and 80-x years.

A comparative analysis of the average decease ages recorded in the last decade in the 0-x years cohort of deceased people, in the six localities inhabited by predominantly Catholic populations, taken into study by the same author [5, 6], evidenced their variation – in the masculine series – between a minimum value of 60.60 years (at Săbăoani) and a maximum of 66.15 years (at Răchiteni) while – in the feminine series – they varied between 65.45 (Gherăești), and 72.65 (Prăjești).

For the 20-x years cohort of deceased ones, the variability of the average decease ages ranges, in the last decade, between 63.70 (Săbăoani) and 68.10 years (Răchiteni), in the case of men, and between 70.80 years (Săbăoani) and 75.45 years (at Prăjești), respectively, in women.

Having all these in view, the conclusion to be drawn is that, both for the 0-x years and, respectively, for the 20-x years cohort, the minimum as well as the maximum ages of decease are recorded, for the masculine series, in the same localities while, for the feminine ones, such a situation is valid only with the maximum values.

To conclude, special mention should be made of the fact that, although the increase of longevity in time, along the whole XXth century, is spectacular, in the last decade, or even in the last two decades, the average decease age is seen as generally reducing – which is indicative for the precarious economico- and social conditions of this period.

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THE HUMAN BIOELECTRICAL REACTIVITY TO THE INFLUENCE OF THE SOUNDS

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Our research synthesizes the results of certain studies of physiological anthropology, carried out in the Laboratory of the individual's anthropology, on the impact the sonorous vibratory phenomena have upon the human body. Sounds and their qualities are among the fundamental factors of adaptation and evolution for the living world, from the cell to the organism as a whole. With man sonorous perception has reached a performing cultural level, man having an ultra-specialized organ on a narrow range of natural sonorous scale. With its oral language system the human being has become a source (by means of the sound producing apparatus) and a receiver (the ear), highly specialized in articulated sounds by which he communicates verbally, specifically, with his fellow beings at a level unknown to other beings. Our object was to research experimentally the answering modality to various categories of sounds, at the level of the whole human body, with healthy and sick subjects, as well as with persons of different ages having **hearing deficiencies.** We carried out an interdisciplinary bio-psycho-social-cultural study on a witness lot of 150 healthy subjects of both sexes, compared to a lot of 55 persons with various deafness degrees from a special school. In our study of sonorous perception we used ***Electrography,*** a method of recording bioelectric signals **at the palm skin level.** As a source to produce musical sonorous frequencies at the level of the whole body (mattress type), we used the ***Therasound*** system. *The results confirmed our hypothesis that sonorous perception takes place at the level of the whole body surface.* It follows that the impact of sonorous vibrations upon the whole body ***through the skin*** surpasses the auditory sphere, having direct effects upon all the functions of the human organism. We objectified these effects ***electrographically on radiological film.***

Our paper is an attempt to study, from an anthropological point of view, the impact of acoustic vibrations on the human organism, considered as a whole, and their part in the adaptation to the environment. It could be integrated into a distinct field of study belonging to "sound anthropology". We have in view the qualities of the living organisms, especially those of the humans, to react as sonorous receivers and even as bioreceivers in the presence of adequate sonorous sources.

The biological structures populating the Earth, as known to us nowadays, appeared, have developed and live in an environment more and more penetrated by acoustic vibrations that have a significant influence on these structures. We can assert

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that, in the case of superior organisms, the presence of these vibrations is not only efficient, but also vital, as we can speak of the existence of an "acoustic homeostasis". Complete phonic isolation of a human individual is rapidly followed by psychic and physiological unbalance. Likewise environmental sound pollution, beyond certain limits, is followed by a wide range of pathological manifestations. The life of the organisms, along all the steps of their biological organization, cannot be conceived without sounds, the interference of sonic vibrations, the living reaching the level of fundamental processes governing life. Everyday life takes place in an inevitably sonorous environment: sounds and natural and artificial noises. As known, the sound is a vibratory phenomenon transmitted as sonorous waves through all solid, liquid and gaseous media, at different velocities, which generally decrease from solids to gases; the transmission to living structures has been studied less.

Music is literally a "*non-verbal* communication"and it *is perceived even by completely deaf people* [6].

What distinguishes the tune (a succession of sounds) from the noise is the disorderly character in which sounds succeed and overlap in the latter case [4].

Noise is the most insidious means of pollution generated by modern times, and it is very difficult to defend oneself against it. From the physical point of view, noise is a disorderly overlapping of sounds with various intensities and frequencies. One should mention that sometimes even the harmonic or melodic sounds may become noises in case they meet the human organism at an inappropriate moment. Just like sound, noise is characterized by the fundamental elements – frequency and intensity [16].

MATERIALS, STUDY METHODS, METHODOLOGY

This paper is part of a more extended approach to certain peculiarities of the pshycho-physical development of children suffering from auditory dysfunction (deaf, low hearing, grown deaf) using the method called electrography. That is why we did not focus on the presentation and analysis of the detailed experimental results concerning the variability of the electrophysiological response of the human organism to various sound categories. We chose to present the aspects which bring *objective experimental arguments* regarding the biophysical, physiological *impact* modality *of sounds upon the whole organism.* They demonstrate both the existence of a general effect and of differentiated, individualized reactions of the human organism under study, depending on its bio-cultural statute.

We studied a witness lot consisting of 150 subjects – 70 men and 80 women with ages ranging from 10 to 70 years. For comparison, we also had in view a lot of 55 auditory deficient persons from a special school, 25 boys and 30 girls with ages between 12 and 17. These subjects were examined medically and anthropologically (anthropometrically, dermatoglyphically, physiologically, etc.). We studied their

electrophysiological and biophysical reactions using electrographic tests, after applying harmonious – musical – sonorous vibrations (at the level of the whole body by means of the Therasound mattress) and nonharmonious sonorous vibrations (sharp whistle).

The research technique is original, adequate to the study of the radiating fields of the bodies. The investigation was carried out by means of electrography (EG), which enables testing objects placed in a field generated by a unique positive or negative monopolar high voltage (4-35kV) impulse and slow intensity impulse (1-15mA) triangular in shape, with sudden ascending slope (15-30 microseconds) and slowly descending slope (100-500 microseconds). The images were sensed on radiological films placed on the glass screen on the electrograph and in the radiating fields of the studied bodies.

Testing by the *electrographic* method reveals a complex bioelectrical activity, continuous on the whole surface of the living organism. We devised the equipment and method of recording the electrographic "imprints"of the living bodies, mainly for determining the human specificity and for creating a bioelectrical typology for the individual. Bioelectrical activity in the human body creates electromagnetic fields and the electrographic exploration with this equipment supplies information on the interaction of the electromagnetic activity inside the body with the environment. By highlighting these interactions we may get information on the organism, required for typological classification: Dielectric (0), Semiconducting (1), Hydric (2), Mineral (3), Mixed (4) and Amorphous (5) and also for medical diagnosis [5, 7, 9].

Knowing the essential characteristics of the bioelectrical phenomena at the cell level points out functional analogies with the electric activity in the covering structures of the organism, at the skin level. Here one can explore both the biological medium and the external electric medium through the surface electric phenomena which reflect both the vital functions of the organism and its reactions determined by external factors.

In comparison with the biopotential recordings made by means of EEG, EKG, EMG and EOG, electrography (EG) catches on the radiological film an interface bioelectric phenomenon, like an answer to an electric impulse used as an electric reactivity test [5, 9].

David Ison is the founder of the TheraSound technique and he has been a composer and music producer for over twenty years. Mr. Ison has developed and clinically tested the therapeutic effects of music and sound. His TheraSound tapes is used in hospitals for stress reduction clinics [10].

PRELIMINARY RESULTS AND CONCLUSIONS

In *Table 1* we present the distribution of the bioelctric types in the two groups we studied. We should point out, in the group of deaf people, the high value, 80%, of the Dielectric type, *characteristic of the persons with certain pathologies,* an aspect whose determinism we intend to research in the future.

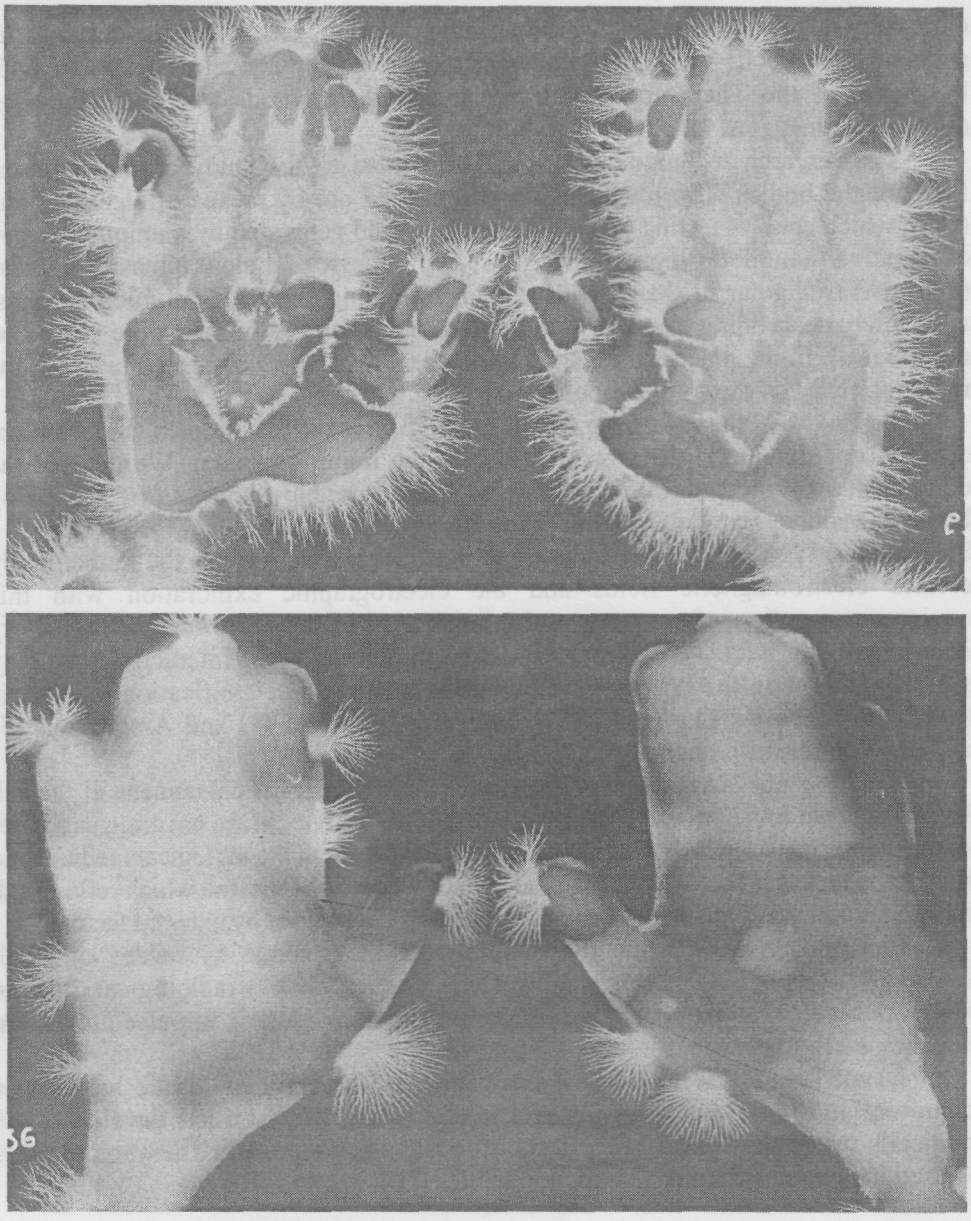

Fig. 1 – Electrographic images of a healthy subject before (top) and after exposure to a sharp noise (bottom).

Comments: Palms normal EG images of Mineral type with rich electrical discharges-named streamers, symmetrically distributed left/right (top) comparative with the EG Dielectric type images characterized by the asymmetrical disappearance of the electrical discharges (bottom).

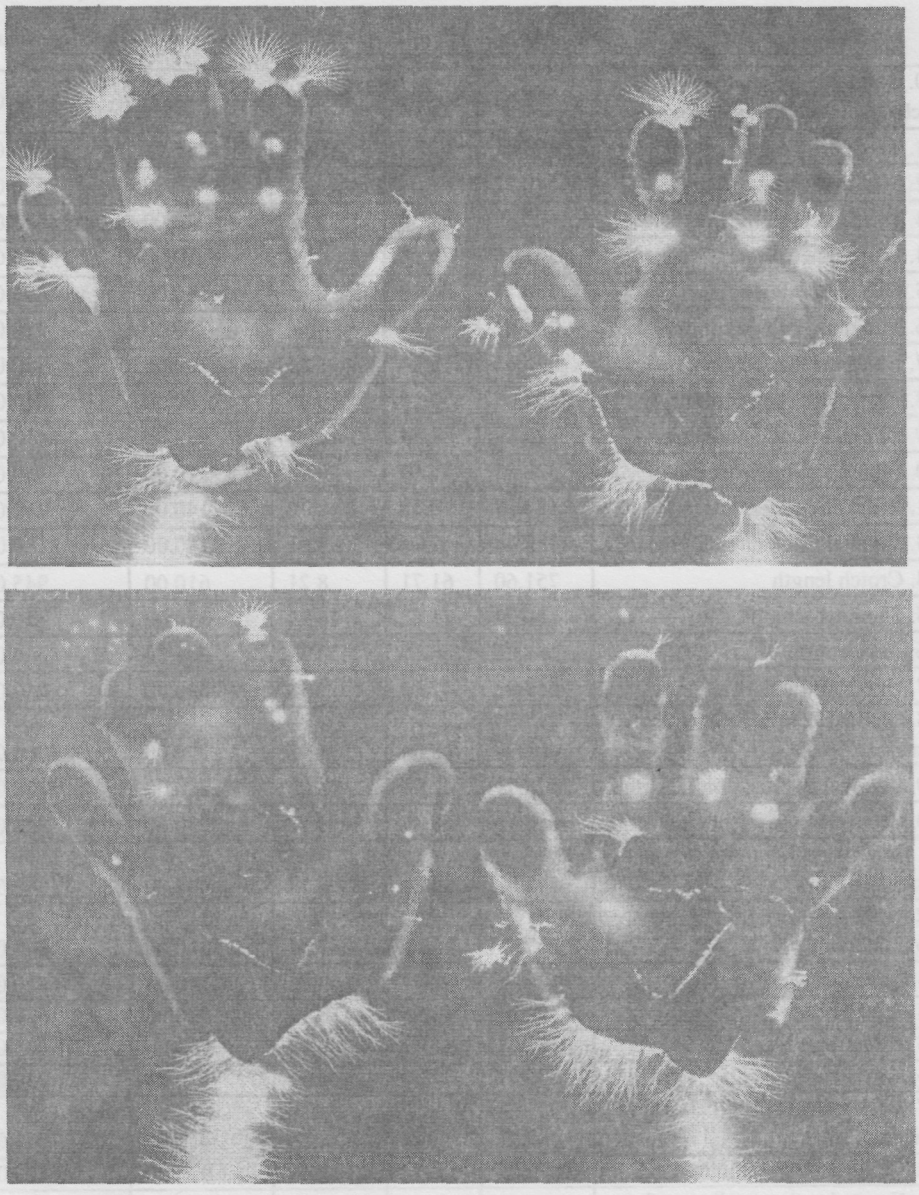

Fig. 2 – Electrographic images of a (12 year old) child with auditory deficiency before (top) and after Therasound (bottom).

Comments: Palms EG images of Dielectric type, specific of the auditory deficient people present poor and sporadic electrical discharges asymmetrically distributed left/right (top), comparative with the EG Dielectric type images and disappearance of the electrical discharges too, ***but characterized by the symmetrical distribution (bottom)***.

Table 1

Distribution of bioelectric types in the witness and deaf people groups.

Bioelectric Type	Witness Group (No=150) %	Group of Deaf People (No=55) %
Amorphous	7	15
Dielectric	10	80
Hydric	16	5
Mineral	25	0
Mixed	37	0
Semiconducting	5	0
Total	100	100

After the electrographic recordings we noticed great alterations of the images of the noise exposed subjects. We present in the figures the witness electrographic image and the image after exposure to a noise caused by a long, nonharmonious whistle (Fig. 1).

According to the pathology we established, the EG image of the healthy subject before exposure to a sharp noise caused by continual 3 minute whistling falls into the Mineral type classification. It is characterized by symmetrical distribution of streamers at the level of the two palms. Streamers are in great number at the level of all the fingers.

After exposure to noise, we notice a reduction of the streamer number, the image obtained being classified in the Dielectric type, which is characteristic of the individuals with certain pathologies. At the level of the right hand thumb the number of streamers is reduced to three (a distal one and two placed proximally) and at the four fingers of the right hand the streamers disappear, while luminescences occur (central position incuded). This may be an indicator of exposure to sonorous stress. At the level of the left hand the number of streamers is reduced to four, placed distally and three proximally.

The analysis of the image reveals the fact that the noise under study has certain effects on the human organism, highlighted electrographically.

The EG image of the child with hearing deficiency (Fig. 2) recorded before exposure to sonorous signals (Therasound) has few electric discharges (streamers) and is asymmetrical at the level of the two palms. According to the bioelectrical typology this image is classified in the Dielectric type. At the level of the left palm the distal streamers are greater in number than those at the level of the right one.

After exposure to the sonorous signals emitted by means of the Therasound technique at the level of the whole body seated on the sonorous mattress, the streamers disappear almost completely. Only a few electric discharges occurred proximally at the level of the right palm; at the level of the left palm, besides a few proximal electric discharges there was also a distal streamer, and the luminescence

number was reduced. It is obvious that the auditory deficient's witness image is similar to the image of the patients with various dysfunctions. After exposiure to the Therasound technique, we observe that the image is still of the Dielectric type, but the streamers are distributed symmetrically, which indicates that the harmonious sonorous signals are perceived by other means than the auditory one.

In conclusion, the modification of these images demonstrates that the sonorous vibrations are also perceived at the tegumentary level.

The sound and the noise cause in humans two types of manifestations, some of them specifically on the auditory analyzer (acute and chronicle disturbances) and others unspecific to the whole organism. The action upon the whole organism is complex, the perception of the sound and the noises taking place not only through the auditory nerve but also through the whole body (skin, muscles, bones, articulations, etc.).

In these researches we intend to improve the adequate compensating, instructive-educational and recovery means in order to render more efficient the means for the deficient's personality formation and in order to facilitate their integration into a normal social-professional climate.

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VULNERABILITY TO OVERWEIGHT IN THE ROMANIAN POPULATION

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In recent years, the anthropological aspects of overweight in the Romanian population have preoccupied the Department of Medical Anthropology from the Anthropological Researches Center of the Romanian Academy. This study analyses the critical ages from where overweight and obesity become predominant for the body mass measures of the population, a warning sign considering the involvement of obesity in the determinism of some chronic degenerative diseases which occupy the top positions in the morbidity and mortality of the population. We examined these ages within populations differentiated by sex, residence area, socio-professional status, in order to identify when the body mass values start to engage upon the slope of overweight and obesity.

The paper represents the survey on some segments of population, biologically and socially differentiated, regarding some body mass indicators, namely the Quetelet index or BMI (Body Mass Index), recommended by the WHO for the studies accomplished at population level by means of the anthropological methodology.

MATERIAL AND METHOD

The variability of the Quetelet index was the result of a previous research on a sample of 6,611 men and 8,002 women.

According to the Anglo-Saxon authors and WHO experts, the BMI normality ranges between 18.50 and 24.99; the values lower than 18.50 are considered underweight; above 25.00 we talk about obesity: between 25.00 and 29.99 – class I, between 30.00 and 39.99 – class II and for values exceeding 40.00 (according to the WHO) – class III.

The Romanian Medical Anthropology has been involved the complex issues of obesity using anthropometry, the most accessible and nonintrusive method of identifying obesity.

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Anthropometry is an assessment instrument for the biological health status and a social and technical instrument of estimation of the social and economic criteria of the population as well.

DATA ANALYSIS

From the analysis of the body mass trends expressed through the variability of the Quetelet index at the Romanian population level, according to obesity classification, the male population shows an accumulated obesity of 35.45%, out of which a percentage of 30.27% represents class I, 5.25% class II, while class III is absent.

The female population shows an accumulated obesity of 35.87%, out of which a percentage of 27.93 corresponds to class I, 7.80 to class II and 0.14 to class III.

As we can see, regarding the incidence of obesity among the Romanian population, no differentiation by sex can be noticed.

Analyzing the variability of the Romanian population according to sex, in order to highlight the most vulnerable ages of the obesity expansion, we have reached the following conclusions:

In the male population, the strongest increase of overweight incidence is located between the ages of 30 and 39, *i.e.* between 30 and 34 years, almost one third of men (34.19%) show a clear obesity (a percentage of 30.01 representing class I and a percentage of 4.18 representing class II), while for the age group of 35-39 years, overweight reaches 39.19%, out of which 33.40% corresponds to class I and 6.02% to class II.

In the female population, overweight characterizes approximately one third of the population (29.53%) for the ages of 30-34, where class I covers 24.12 % and class II covers 5.28%.

If we analyze comparatively the global incidence of obesity for the ages of 55-59, in men and women as well, we find out that 50.33% of men show a global obesity that includes 39.77% class I and 10.56% class II; while in women we recorded a global obesity of 79.34%, out of which 62.02% stands for class I and 17.72% for class II.

At these ages we have noticed a significant differentiation between the frequencies of obesity in women as against men.

Knowing that life expectancy of men is significant smaller than the one of women, we surely ask ourselves: do women tolerate better obesity and the maladies in which determinism is included, in comparison with men?

Analyzing the variability of the average values of the BMI according to age, we notice that for men, beginning with the age of 30 it comes close to the inferior limit of class II (24.29%), while in women beginning with the age of 35 (24.60%).

In our previous studies we signalized a series of differentiations in the body sizes according to residential areas, which means that urban men show an increased frequency of all degrees of obesity (39.12%) than rural men (30.00%); for women,

obesity reported in the rural areas (43.34%) outruns the one reported in the urban area (32.74%).

Within this type of variability of the body mass indicators we have also found that from the viewpoint of the BMI values the age of 30 represents the inferior limit of the beginning of obesity.

In the urban population, for men, the critical age for the expansion of obesity is placed between 30 and 39, since the BMI indicates a global obesity of 36.21% for the age of 30-34 and of 47.19% for the age of 33-39 and, finally, at the age of 50-54, 60% of men show different classes of obesity.

For women, beginning with the age of 35, the BMI values indicate a global obesity of 38.27%, of 47.19% for the age of 40-44 and, finally, at the age of 50-54, the frequency of obesity reaches 64.50%.

In the rural areas, the ages when the frequency of global obesity begin to increase are for both men and women those of 30-39 years.

We notice a significant differentiation in the age-related evolution of obesity in men (lower) in comparison with women (higher), so for the ages of 55-59, the frequency of obesity is 30.94% in men, compared to 86.41% in the women from the same category.

The analysis of the variability of the anthropometrical body mass indicators on socio-professional differentiated populations regarding the most vulnerable ages to invasion of obesity has highlighted differentiated frequencies of different degrees of obesity. So, the male population from the research domain shows an obesity frequency of 47.11%, followed by the male population from the heavy industry with an obesity frequency of 36.16% and from the light industry with an obesity frequency of 34.64%.

As concerns female population, the highest frequency of obesity is recorded in the heavy industry sector (43.66%), followed by the light industry (34.78%) and the research-design sector (30.85%).

The start of obesity increase is located between the same ages: 30-39 years.

After the age of 55, 61.18% of the men from the design sector, 67.90% from the light industry and 58.67% from the heavy industry are affected by obesity.

In the women of over 50 years old, we have found an obesity frequency of 54.29% for the research-design sector, 69.91% for the light industry sector and 72.73% for the hard industry sector.

CONCLUSIONS

Analysis of the anthropological data evidences both the vulnerable ages of appearance and assault of obesity upon the body mass sizes at the population level, and the risk factors in the emergence of obesity.

At the same time a differentiated variability of the obesity frequency by urban and rural areas and within them between men and women was highlighted, underlining increased frequencies for the urban men series and the rural female series.

Regarding the socio-professional aspect, we registered a differentiated variability of the obesity frequency in different sectors of activity, noticing that less demanding physical activities are correlated with a higher frequency of obesity.

From the anthropological analysis of the factors that influence the spreading of obesity, we infer the necessity to elaborate programs of information upon the risk of getting weight after a certain age as a prevention measure for obesity – a double hypostasis malady, that of a chronic disease and a risk factor for other chronic degenerative maladies as the cardio-vascular, metabolic, endocrine ones.

The study of the Romanian adult population opens a new path for the researches on the obesity in children and adolescents, knowing from the medical literature that almost 40% of the obese adults come from obese children and adolescents.

Worldwide prevention of obesity is a priority since obesity is spreading in all the regions. However, this priority is differently by approached in a society where it is spread in all its segments in comparison with those places where it is noticed only in wealthy social groups. Obesity is associated both at present and in future with the risk of morbidity; since it is harder to treat than to prevent, it seems that prevention activities are becoming the main purpose of the medical system. Given that there is little information in this area, the WHO estimated the needs of research on nutrition in adolescents as huge.

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ASPECTS CONCERNANT LE DÉVELOPPMENT PHYSIQUE DES ENFANTS ÉCOLIERS SOURDS-MUETS

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Aspects of the physical development of deaf-and-dumb school children. This paper is a part of an anthropological research developed in 2002-2003 on deaf-and-dumb children from a special school in Bucharest The estimation of the somatic development was made comparing the values of the deaf-and-dumb children with the mean values of normal children in relation with age and sex. The results illustrate on the average a good trunk development of the deaf-and-dumb children. Most phenotypes of the reserched characters (biacromial breadth, bicrystal breadth, chest circumference and abdominal circumference) are situated within the limits of variability "$M \pm \sigma$". The deaf-and-dumb girls have a better trunk development.

Nos travaux antérieurs basés sur une recherche d'anthropologie médicale mettent en évidence un assez bon développment staturo-pondéral et céphalo-facial des enfants sourds-muets, écoliers de l'École Spéciale n° 2 de Bucharest (I^re^ – VIII^e^ classes) (4, 5).*

Nous avons continué ces travaux par une étude concernant le développement somatique des enfants entre 7 et 12 ans. C'est une période ontogénétique caractérisée par des aspects spécifiques de la croissance et du modelage corporel avant la puberté.

MATÉRIEL ET MÉTHODE

Le matériel d'étude est composé de 78 enfants sourds-muets (33 garçons et 45 filles) âgés de 7 à 12 ans.

Pour estimer le développement métrique corporel nous avons choisi quatre mesurages du tronc: largeur des épaules (a-a), largeur du basin (ic-ic), circonférence

* Les auteurs remercient le personnel enseignant de l'École Spéciale n° 2 de Bucarest pour son aide précieuse.

thoracique et circonférence abdominale. Ce sont des mesurages pour lesqueles nous avons eu des moyennes-étalon selon l'âge et le sexe (2, 3).

Pour établir la position du chaque enfant sourd-muet par rapport à l'étalon utilisé pour les caractères incriminés, nous avons calculé la valeur normée (réduite) «z» (4, 5, 8). On a calculé aussi les fréquences relatives des phenotypes métriques dans les catégories de variation selon le caractère et le sexe.

La certitude des différences entre les enfants sourds-muets selon le sexe a été appréciée par le test de signification Student.

RÉSULTATS ET DISCUSSIONS

I. LE DÉVELOPPEMENT SOMATIQUE DES ENFANTS SOURDS-MUETS PAR RAPPORT AUX VALEURS MOYENNES DES ENFANTS NORMAUX

Tableau 1

Le développement somatique des enfants sourds-muets par rapport aux valeurs moyennes des enfants normaux

Caractère	Valeur «z»								t
	Garçons (N = 33)				Filles (N = 45)				
	Min.	Max.	M	eM	Min.	Max.	M	eM	
1.Largeur des épaules (a-a)	-3,09	+1,30	-0,27	0,18	-1,97	+1,69	-0,38	0,12	+0,50
2. Largeur du bassin (ic-ic)	-1,60	+2,38	+0,21	0,17	-1,10	+3,41	+0,70	0,14	-2,23*
3. Circonférence thoracique	-2,05	+1,97	-0,12	0,15	-1,32	+2,70	+0,28	0,14	-2,00*
4. Circonférence abdominale	-1,82	+1,39	-0,48	0,13	-1,57	+2,97	+0,05	0,12	-2,94*
5. C.abdominale/ C. thoracique	-2,32	+1,63	-0,76	0,15	-2,42	+1,89	-0,31	0,11	-2,37*

* Différence significative

Les valeurs moyennes des distances calculées chez les deux sexes ne sont pas significatives pour tous les caractères corporels incriminés. Dans le tableau 1 on voit que les valeurs moyennes de «z» varient entre l'intervalle «M ± σ». Mais on peut souligner que les garçons ont un développement plus faible de l'abdomen par rapport au thorax (z = -0,76) pendant que les filles ont le bassin plus large (z = + 0,70).

Les garçons dépassent faiblement les filles seulement par le développement des épaules (pas significativement). Par rapport aux garçons, les filles ont un meilleur développement du basin, du thorax et de l'abdomen (statistiquement significatif).

II. LA VARIABILITÉ DU DÉVELOPPEMENT SOMATIQUE CHEZ LES ENFANTS SOURDS-MUETS

Tableau 2

Variabilité du développement somatique chez les enfants sourds-muets (7-12 ans)

Caractère	Sexe	N	<M - 2σ		<M - σ		M ± σ		>M + σ		>M + 2σ	
			n	%	n	%	n	%	n	%	n	%
1.Largeur des	garçons	33	2	6,06	6	18,18	23	69.70	2	6,06	0	0
épaules (a-a)	filles	45	0	0	11	24,44	31	68.89	3	6,67	0	0
2. Largeur du	garçons	33	0	0	2	6,06	24	72,73	6	18,18	1	3,03
bassin (ic-ic)	filles	45	0	0	1	2,22	29	64,44	11	24,44	4	8,89
3. Circonférence	garçons	33	1	3,03	4	12,12	25	75,76	3	9,09	0	0
thoracique	filles	45	0	0	3	6,67	32	71,11	8	17,78	2	4,44
4. Circonférence	garçons	33	0	0	7	21,21	24	72,73	2	6,06	0	0
abdominale	filles	45	0	0	5	11,11	36	80,00	3	6,67	1	2,22
5.C.abdominale/	garçons	33	4	12,12	7	21,21	21	63,64	1	3,03	0	0
C. thoracique	filles	45	1	2,22	6	13,33	37	82,22	1	2,22	0	0

La plupart des phénotypes métriques individuels se trouvent dans la catégorie «M ± σ» chez les deux sexes pour tous les caractères. Cependant la courbe de variation a une orientation vers les catégories inférieures pour la largeur des épaules, circonférence de l'abdomen et pour l'indice circonférence abdominale/ circonférence thoracique. La courbe tend vers les catégories supérieures pour la largeur du bassin.

En ce qui concerne les différences sexuelles, on remarque chez les filles par rapport aux garçons une tendance plus accentuée vers les grandes catégories pour la largeur du bassin (33% : 22%). Le développement du thorax montre une tendance vers les catégories inférieures chez les garçons (15%) et, par contre, vers les catégories supérieures chez les filles (22%). En même temps, chez les garçons on trouve une fréquence appréciable des phenétypes plus petits que «M ± σ» (21–33%) par rapport aux filles (11–15%) en ce qui concerne le développement de l'abdomen.

CONCLUSIONS

Les valeurs moyennes de «z» et la variabilité individuelle des phénotypes métriques du tronc mettent en evidence un assez bon développement chez les enfants sourds-muets entre 7 et 12 ans par rapport aux enfants normaux du même âge. Un développement plus déficitaire, mais non significatif, s'enregistre chez les deux sexes pour la largeur des épaules, la circonférence abdominale et pour l'indice du développement de l'abdomen par rapport au thorax. Excepté la largeur des épaules, les autres mesurages du tronc ont un meilleur développement chez les filles par rapport aux garçons pendant cette période ontogénétique.

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NUTRITIONAL BEHAVIOR OF CHILDREN AND ADOLESCENTS

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The paper summarizes the results of a pilot-study carried out on a sample of children and adolescents from Bucharest school units in order to approach the topic of their health status in the light of those behaviours that lead later to nutrition disorders like obesity, a main risk factor in many diseases and health conditions, as hypertension, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis or some cancers like endometrial, breast, and colon – diseases which occupy top positions in the morbidity and mortality of the population While it deals generally with their food habits and physical activity in order to determine which behaviours should be modified and reinforced, the survey highlights some theoretical and practical difficulties raised by such an enquiry, compared with similar ones, done in western countries

INTRODUCTION

Using a questionnaire that would principally highlight the subjects' knowledge and practice, we initiated an enquiry concerning the nutritional habits and life-style of the Romanian adolescents at present, taking as a starting point the widely accepted fact that diet and physical activity are essential for the prevention of obesity. This idea was materialized in a range of specific items regarding the intake of the main food groups and the importance attached to them within the individual diet. What we noticed analyzing the answers was not only the subjects' poor information, but also a significant although to a certain extent predictable distance between what they know or believe that it's nutritionally healthy and putting the respective convictions into practice. At this point, there is a disparity between the number of adolescents who consider important to have breakfast and the number of those who eat nothing in the morning; of those who believe that the snacks they eat have bad effects on their health and those who buy chips or other snacks in schools; of those who do not consume milk and those convinced that milk is essential for health; not to speak about the number of those who believe that animal fat is risky for health but find themselves among those who frequently consume butter, pork and generally enjoy a meal full of fat.

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MATERIAL AND METHOD

The sample of this pilot-study was composed by the attenders of some school units from Bucharest, having different socio-cultural backgrounds, which makes it undoubtedly representative for a part of the urban area; however, the extrapolation of the results obtained to other urban centers from the country, without taking into account the fact that the globalization trends and the life-rhyme changes are more strikingly evinced here, would be a mistake. Therefore, this approach is only a part of a general anthropological study on the school population of children and adolescents from Romania. The target group was submitted afterward to a differentiation by age and sex. Considering the different level of intellectual development, we have utilized two different questionnaires for schools and high schools. Experience has taught us that one item could be misunderstood or irrelevant for a certain age group. We tried to adapt the questions without renouncing to their basic content.

RESULTS

Food security is a problem that deserves attention in our preliminary analysis of the results and consequently in advocating any guidance. A WHO report, dated a few years ago, indicated nutritional education, food security and the access to nutritional services as three major components of nutrition promotion and admitted, without hesitation, that, 'it is only in the extent that people have access to food and some margin for choice that nutrition education can be meaningful' [10, p. 101]. It is possible that our collected data lack certain accuracy because poverty is subjectively felt as guilt and shamefully hidden. To be the victim of poverty (and not of that paucity evinced by lack of some home utilities but the most cruel one, given by the impossibility of satisfying the essential needs as food need) is a stigma almost unbearable for a young subject whose self-image is under construction and whose self-esteem would hardly cope with the marginalisation effects of assuming such a condition. We attempted to catch these aspects through acknowledged items (as that of the parents profession, formerly a pretty good indicator of the retribution level and for that reason of the family income) but also by means of some indirect items (regarding their pocket money, the choice of a location for the holydays, the presence of a personal computer at home, the access to the internet) and through a specific one (concerning the most utilized foods in their homes). Once again we mention that the findings must be reservedly treated.

An equally ticklish matter is the fact that, while families and schools are those who provide the foundation for the healthy behaviors, in Romania, education in support of health (including the behavior-focused nutrition education) is not part of the formal education, of the curricula. There is a cleavage between the academic disciplines and the knowledge that could help them to easily resolve problems from

the real life and this fact could be observed even in case of the educational institutions that have a practical orientation as professional schools. Medical cabinets of the schools note down, at the beginning and the end of the educational process in that school unity (in other words extremely rarely), data related to subjects' height and weight, but these data are not included in a monitoring program on growth and development of the attenders; the cabinets are neither dissemination centers of the information on nutritional health. The survey indicates the limited role of the medical workers as information source. The main information sources of the adolescents are the friends, the Internet, the mass media, the books, and only at last the doctor. This observation might be useful when establishing the channels through which we could address the adolescents. The same is valid as regards their readings. Although a pretty high percentage claim enjoying reading in their leisure time, the fact that entertainment magazines are at the top of their preferences warns us about the risk which pseudo-scientific medical articles could present for their health knowledge. Quite reasonably it has been noticed that until a certain age, the contacts of the adolescent with medical professionals are sporadic, limited to the disease periods. Most of the adolescents consider themselves healthy and are little preoccupied by the future health risks of their behaviors. Moreover, there is a reticence in appealing by themselves to the medics. This could be changed if through the medical and psycho-pedagogical assistance cabinets of the schools some programs for health were unfurled, which have an integrative way of approaching the development of the adolescent as a total person and which address all the major problems, including sexual and reproductive health, nutrition and hygiene – respecting of course the confidentiality and why not involving the adolescents themselves.

As regards the physical activity, the schools patronage is rather lax and the children, even those with obesity tendencies, can easily avoid the physical exercises and choose, as the answers showed, to keep a special diet (fasting or eating less food, fewer calories, or foods low in fat – as a main method of losing weight). The inferior status of physical education among the academic disciplines, which in some view should be replaced, is a symptom for the insufficient awareness of its importance. A possible explanation could be that the school promotes the competitive aspect of the physical activity and the students less gifted or less skilled at the curriculum proposed sport take distance from any physical activity.

Given the situation, we tried to investigate the importance of the family in adopting healthy behaviors. Undeniably, the parents are concerned with food security. But, to the extent in which, instead of a nutritiously meal, the child receives money with which he buys snacks (carbonated soft drinks and high in calories, fat or sugar foods) we can ask: are these parents also concerned with the food quality of their children? How much of the increasing percentages of children who do not take a package meal from home reflect the children's independence spirit and how much the parents' indolence, overcrowded program/lack of time or poor information? Diet is in the end a compromise product between what parents

know and can offer and what children want/prefer to receive. The fact that parents give dietary supplements to their children proves that they are conscious of the lack of the different nutrients. Not the same thing could be said about their preoccupation for creating an active environment by limiting the amount of TV watching and PC use and by supporting their children's participation in an extracurricular physical activity program; children should also avoid other activities during meal times (as TV watching); eating too late in the evening or at night are other bad habits that parents should discourage as well.

An aspect that we cannot neglect is that of preparing the food at home. In western societies, confronted with the fast-food danger, this constitutes one of the standard recommendations that aim to create a healthy eating environment. However, fast food is not an option in Romania except for a certain (wealthy) social milieu (and this due to parents' lack of time or indolence). Most children, as statistics show, eat household-prepared food. Which is not necessarily healthier if not rich in fruit, vegetables and grains, low-calorie and nutritious products, or if the cooking methods are not appropriate. An increased consumption of starchy food such as bread, cereals and potatoes is highly recommended due to their main nutrients: carbohydrates, fibres, calcium and iron, B vitamins, while butter, oils, margarine, mayonnaise or different sauces should be avoided or kept to a minimum. Replacement of white bread by a thicker one is a advocated option, but not very popular among adolescents. Fruit and vegetables are rich sources of vitamins (among which vitamin C and carotenes are antioxidants), folates, fibres and their intake help reduce the amount of fat in the diet, unless syrups, creams, fat, butter, oil are added. Consumption of milk and dairy foods, meat, fish and alternatives provides human organism whith protein, calcium, zinc, iron, magnesium, vitamins (A, B vitamins, especially B12, B2, D), but maintaining a balanced diet and reducing the amount of fat, particularly saturated fatty acids, mean choosing leaner meat and lower fat dairy foods as well as cooking methods (such as grilling) which do not require added fat. This is why we paid special attention through our questions to the intake of sugary and fatty foods: margarine or butter, chips and pork, fast foods and sweets.

Hardly achievable requirements are regular meals or lunch as near the mid school day as possible. Due to school schedules, for most secondary school children and for a significant part of high school students, the traditional lunch is hastened and unified with breakfast or delayed and joined with dinner. For this reason, the interpretation of the answers to a simple question as the one referring to the main meal of the day may be misleading. What pupils/students label snacks between lunch and dinner is not very clear either. If we consider the fact that home-prepared food occupies an important place in their options, a very strict delimitation of the meals does not seem to be part of a family food behavior.

In some western countries such as the USA, schools have enough funds and logistic means to ensure a school meal that may meet certain nutrition standards. In

Romania, the 'milk and croissant' government's program represents a rather single initiative. Compared with a monthly amount of cash destined to meet some general needs for children, and which most often does not reach the intended purposes, this program targets directly children's nutritional needs. However, some local authorities, lacking experience in public auctions, prove unprepared to manage the situation. Furthermore, in the USA a coalition of five medical associations and the USDA proposed a "Prescription for change: ten keys to promote healthy eating in schools" to be used for guidance in school nutrition programs that require that all students will have designated lunch periods of sufficient length to enjoy eating healthy foods with friends, that schools will provide enough serving areas to ensure student access to school meals with a minimum of waiting time and space that is adequate to accommodate all students and pleasant surroundings that reflect the value of the social aspects of eating; Romanian schools can not meet any of such requirements. So it is not surprising that the distribution of the croissants and dairy foods as well as eating during classes disturb school schedules to the teachers' great dissatisfaction. Some public voices criticized the program for having introduced improvised mechanisms instead of services that were eliminated, such as half-boarding schools that functioned adjacently to some educational units and where primary school children had an ensured meal and were watched until 4 or 5 hours in the afternoon, when they were picked up by the parents – a solution that fitted the social reality of a family where both parents have jobs.

In our school units, the concern for ensuring at least a snack for school children is often similar to granting permission to leave the school perimeter in order to buy from the neighboring shops chips, crisps, biscuits, pastries, ice-cream, chocolate, carbonated drinks, *i.e.*, foods containing fat and sugar, whose consumption should be reduced. The percentage of subjects with stomatologic problems (very high towards the age of 18) confirms the hypothesis that with increasing consumption of sugar, of processed foods and of snacks items tooth decay may increase. The effects of dietary changes, such as those that occur in adolescence, combined with alcohol and tabacco consumption, may affect dental health (Lessard 1995) [10, p. 31]. The frequency of digestive diseases (ulcer and gastritis) should be related to the bad habit of skipping breakfast.

Smoking and alcohol use are other two bad practices, which could be acquired in the family. (Here the answers might again not reflect the reality.) Parents must become conscious that they cannot achieve and maintain healthy behaviors, unless they are themselves models for the children. To this effect we examined the quality of the children-parents relation. Unilaterally, for the time being. The results would support an optimistic forecast as regards a possible partnership between parents, students and school units, since most of the subjects have a good relationship with their parents and consider them the main advisors in health problems.

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THE CONTRIBUTION OF DERMATOGLYPHICS TO THE PREDICTION OF TYPE 1-DIABETES MELLITUS (T1DM)

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The present study is devoted to the pathology of dermatoglyphics on a group of 133 subjects (58 males and 75 females) affected by T1DM, of which 58 are children and teen-agers (33 boys and 25 girls) with ages between 4 and 18 years, in whom the disease started between 2 and 17 years, while 75 are adults and old people (25 men and 50 women) with ages between 24 and 79 years, in whom the malady started between 22 and 76 years, respectively In about 75% of the cases, the diabetes is primarily insulin-depending, the other patients being insulin-requirers or only secondly insulin-depending, at the level of the whole batch, 266 palmary prints have been collected
A first observation was that both the primarily insulin-depending and insulin-requiring patients evidence in their palmary print – regardless of the age at which the malady occurred, or of the presence of another affection in the spectrum of their clinical picture – multiple distortions or anomalies bearing deep clinical significance which, at the level of the whole group, attain percent values by which the diabetes-affected ones are significantly different from those recorded in normal populations, being nevertheless quite close to the behaviour of the severe CVD and OD affected ones Present both in the masculine and in the feminine series, and on both palms of the affected persons, having, to a considerable extent, a bilateral disposition in the carriers, the distortions put into evidence demonstrate that the intervention of the factors responsible for the self-immune process of β insulinic cells' destruction is manifesting as early as the intrauterine life, when the papillary ridges are formed, which supports the idea of their possible utilization as "markers" in predicting the persons with diabetogeneous risk

INTRODUCTION

Diabetes Mellitus (DM), considered as an epidemy occurring at the planetary scale [7, 19, 20] is nowadays defined as a *metabolic syndrome*, including *a heterogeneous group of disorders, all characterized by hyperglycemia, associated with significant blood proteic and blood lipidic modifications, all of them the result of either a relative or an absolute deficit in insulin secretion, accompanied, too, by the resistance of the peripheric tissues, to utilize this "hormon of life" – necessary in the transformation of glucose into glycogen – as a reserve energetic substance* [1, 3, 6, 12, 20].

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One may therefore appreciate that, generally, *Diabetes Mellitus* is a malady of the whole organism, involving – either directly or indirectly – more or less all cells, tissues, organs and metabolic processes, whose amplitude depends on the organism's genetic stock, on the extent of the metabolic dysbalance and on its duration, too. Consequently, the complications provoked by such a malady are also multiple, among them a special place being occupied by cardiopathy, artheriopathy, nephropathy, neuropathy, retinopathy, etc.

Present in all populations of the world, regardless of their nationality, race or religion, diabetes varies – as to its frequency – with geographical area, ecological environment, ethnic group, socio-economic condition, season, sex and age. The World Health Organization (WHO) and the International Federation for Diabetes (IFD) estimate that, at worldwide level, there exist at present 194 million persons suffering from diabetes, an increase up to 334 million being possible in 2025, and up to 366 million, respectively, in 2030. Such an increase in the frequency of diabetes will be of 150% in the developing countries (in which the 45-69 years segment of age will be mainly affected), and of 100% in the developed countries where, nevertheless, 65 years old people, or older ones, will suffer [7, 19, 20].

The highest average annual ratio of diabetes incidence in 100,000 persons in Europe (and of the whole world, as well), is evidenced in Finland (45.2), followed by Sardinia (30.2), the lowest values, of 2.45, being recorded in Macedonia [3, 5, 6].

From this point of view, Romania records a number of 450,000 persons affected by DM, to which one should add an equal number of non-registered ones, the average annual ratio of the disease's incidence in 100,000 persons, of 5.1, classifying our country among the European ones with reduced incidence, however before Greece (4.6) and Macedonia, with 2.45 [3, 5, 6].

If considering the complex etiology of diabetes, one may say that it is manifesting in a multitude of forms, the most largely occurring ones, the best known ones, too, being: *type I-DM* or *the insulin-dependent diabetes*, representing, in Romania, 10-15% of the whole number of diabetic persons, and *type II*, or *insulin-independent*, representing 85-90%.

T1DM, to which the present study is actually devoted, is a self-immune affection, in which the β pancreatic cells (from the Langerhans islands), producing insulin, are destroyed up to 90%, although the first clinical obvious signs (asthenia, polyuria or excesive urination, polydipsy (excesive thirst), polyphagy or constant hunger and weight loss for no reason, drowsiness or exhaustion, etc., may appear when the process of destruction affected only 50% of the β cells. People with type 1 diabetes require daily injections of insulin to survive. The malady affects mainly the young groups of age – the 0-18 years old ones, especially –, although in Romania [3, 5, 6] a certain shift of the peak characterizing the average annual incidence ratio in 100,000 persons (10.1)

is to be noticed for the 65-69 years group of age. The average global incidence of T1DM in 100,000 persons/year recorded in Romania, of 3.05, one of the lowest in Europe, oscillates between a maximum of 5.5/100,000 persons/year (Cluj county) and a minimum of 0.81 (Vaslui county).

In its turn, T1DM may be: *primarily insulin-dependent* (requiring, from its very debut, an insulin-therapy, representing 7% of the diabetics) and *secondarily insulin-dependent* (in which case the treatment with insulin begins after a longer or shorter period of oral drugs treatment). Annually, 1% of the patients with T2DM become T1DM.

As to *the causal factors involved in the installation of T1DM*, they may be considered as either of *self-immune or of idiopatic nature*. The self-immune process of insulinic β cells' destruction is usually observed in subjects with a diabetogeneous genetic predisposition, while the initiation of such a process is caused by some external factors ("triggers"), of multiple nature – a hypothesis supported, as well, by the low concordance of the malady in univitelin twins (30-50%), or by the large interval (of about 30 years) within which the disease may appear in one of the non-affected twins. More than that, it is generally acknowledged that, in 5% of the apparently healthy population, *anti-insular* antibodies may be detected in the serum, capable of persisting for tens of years, yet without launching the destruction of the β insulinic cells [1, 5, 6, 12].

From *a genetic viewpoint*, the studies performed on twins [2, 6], on families having 2-3 diabetic children [11], as well as studies of molecular genetics [1, 5, 6], have evidenced that T1DM is a *multi-factorial affection*. The genes responsible for the development and releasing of the malady are situated on several chromozomes (pairs 2, 3, 6, 7, 11, 15, 17), of which a special position is held by chromozome 6, on the short arm of which, on its distal part, 3 HLA genes are present, namely: one controlling the susceptibility to T1DM, another one playing a diabetogenic role, and a third one assuring the organism's resistance to diseases. Nevertheless, the problem of hereditary T1DM remains an open one, although, at present, for predicting the diabetogenic risk, not only the *immunological markers* (determination – in the serum – of the anti β insulinic antibodies) *or metabolic ones* (determination of the insulin secretion after glucose's intravenous injection), *but also genetic markers* (tracing of the HLA genes) are being employed.

Having all the above observations in view, and considering, too, the well-known relation between dermatoglyphics and diseases, in general [4, 13, 15, 18], the present study is devoted to a thorough analysis – as far as we know, the first of this type at the national level – of these morphological characteristics, on a batch of T1DM affected subjects from Moldavia. The author's aim is, in part, that of catching a possible intervention of the diabetogenic genetic compound, as well as

of the external factors at the uter level, along the 3-5 months of intrauterine life when the epidermal papilary ridges get finalized, an intervention suggestively expressed by the anomalies or distortions known as announcing the malady.

MATERIALS AND METHOD

Along the year 2004, at the Diabetes Section of the "Sf. Maria" University Clinical Hospital for Children in Iaşi, as well as at the Center of Diabetology within the Section of Diabetes, Nutrition Affections and Metabolism, at the "Sf. Spiridon" University Clinical Hospital in Iaşi, a number of **133** patients suffering from T1DM (**58** males and **75** females) were investigated dermatoglyphically. Out of the 133 patients, **58** are children and teen-agers (**33** boys and **25** girls) with ages ranging between 4 and 18 years, whose malady started between the age of 2 and 17 years. The remaining **75** are adults and old people (**25** men and **50** women), with ages between 24 and 79 years, in whom diabetes occurred between 22 and 76 years. In about 70% of the affected ones, T1DM is manifesting in its primary, insulin-dependent form, the other ones being insulin-requiring ones.

The inquiry performed on either the affected ones or on their accompanying parents (in the case of children) evidenced that, out of the 58 children and teen-agers, in 24 (16 boys and 8 girls) the malady was hereditary, while in 34 of them (17 boys and 17 girls), no antecedents were found in the family. In the group of adults and old ones, out of the 75 affected patients, 29 (7 men and 22 women) inherited T1DM, while 46 (18 men and 28 women) did not. Also, out of the 58 children suffering from T1DM, in 18 (11 boys and 7 girls) the malady was accompanied by various complications, such as hepatic, renal, ocular and cardiac affections. In adults and old people, out of the 75 affected ones, in 45 the T1DM was associated with a much more complex clinical picture, within which mention should be made of: pancreatitis, hepatic affections – hepatic cirrhosis included –, urinary infections, problems of circulation at the level of the inferior members (arteritis, obliterating arteriopathy), neuropathy, cradiopathy, nefropathy, retinopathy and HTA. For all the pathological indicators evidenced *at the palm's level* (as analyzed in the present study), stress was laid on: sexual dimorphism, bimanual differences and their uni- or bilateral disposition in their carriers – all representing important aspects in estimating the affection extent of the sample, from a dermatoglyphic perspective.

Processing and interpretation of the results was made at the level of the whole batch under investigations. The results recorded were compared with the ones obtained by the author on a reference group from the same geographical area, as well as with those registered for two of the most frequent deseases present in the spectrum of the patients' clinical picture, *i.e.*, severe cardiovascular diseases (CVD) and ocular diseases (OD) [14, 16, 17].

The working methods applied are those currently used in the investigations of pathological dermatoglyphics [4, 9, 13, 15, 18].

RESULTS AND DISCUSSION

The individual analysis of the dermatoglyphic files has put into evidence that both the patients suffering from primary, insulin-dependent diabetes, and the ones affected by the insulin-requiring form, show – regardless of the age at which the malady started – significant distortions or anomalies in the plam's complex picture, all bearing deep medical significance. Such anomalies, occurring beetween 2 and 5 in each patient's palm, in various combinations, as well, attain – at the level of the whole group – percent ratios whose values significantly single out the diabetes affected one persons from the apparently normal population from which they come, while getting them more or less near to the behaviour manifested by patients with severe CVD and OD.

Out of the large range of palmary distortions put into evidence, the first – of a general caracter – *refers to a sensible diminution – comparatively with the normal values – of the frequency of the interdigital space III pattern* up to 25.94%, comparatively with 36.1%, the value recorded in the reference sample, *a diminution much more intense with the masculine series* (22.41% *versus* 28.66% in the feminine series), *and also on the left palm of both the male and female affected ones* (*i.e.*, 15.22% in men and 17.33% in women, comparatively with 29.31% and, respectively 40.0%, on their right hand). This led to another serious disturbance from normality, *referring to the distribution succession of the pattern's frequency in the 5 compartments*: IV > Hp > III > Th/I > II, instead of IV > III > Hp > Th/I > II, which is the case of normal people.

Such a reduction in the patterns' weight in the interdigital space III is due *to an unexpectedly high increase of frequency, for the partial and total suppression of the "C" line (Cx and, respectively, Co)* – attaining together an average value of 43.23%, out of which 34.58% for Cx and 8.65%, respectively, for Co, both formations occurring among the mostly frequently met with malformative stigmats in the diabetics' palm (as well as in other Europ groups of affected people). As evidenced in Table 1, the 2 pathological formations are more frequent with the masculine series and on the left palm of the affected ones, for both sexes. There follow, according to the average percent values recorded after Cx and Co, anomalies such as: *the dense and very dense network of the ridges from Th/I* (39.09%), *the presence of 2, 3 or 4 triradia in the palm's Hp (34.21%), the a-b distance from the interdigital space II much more reduced, comparatively with the average value registered in the Romanian population – i.e.*, 21 mm in women and 24 mm in men (25.56%), *finalization of line T in the palm's fields 11 and 12 instead of 13 (25.18%), the ulnar loop from Hp with 13.53%, the transverse palmary sulcus (12.40%)* and *the radial arch (A^R) of Hp (5.64%).* Out of these last

distortions, bearing deep clinical implications [13, 15, 16, 17, 18], the dense network from Th/I; $T_{I1} - T_{I2}$, L^u from Hp and A^R from Hp seem to appear more frequently with the feminine series, while the reduced a-b distance and the palmary sulcus occur in the masculine series and tt't'', being practically equally manifested with the two sexes.

Table 1

Percent distribution, according to hand and sex, of the palmary dermatoglyphic anomalies, comparatively with CVD and OD

Palmary anomalies	Malady + reference sample	Masculine series			Feminine series			**Total**		
		Left	Right	Left+ Right	Left	Right	Left+ Right	**Left**	**Right**	**Left+ Right**
A^R in Hp	TIDM	-	6.90	3.45	4.10	10.66	7.33	**2.25**	**9.02**	**5.64**
	CVD	12.50	20.00	16.25	3.64	12.73	8.18	**7.36**	**15.78**	**11.56**
	OD	3.00	7.00	5.00	2.00	6.00	4.00	**2.50**	**6.50**	**4.50**
	Reference sample	-	1.00	0.50	-	1.00	0.50	**-**	**1.00**	**0.50**
L^u in Hp	TIDM	12.07	13.79	12.93	17.33	10.79	14.00	**15.03**	**12.03**	**13.53**
	CVD	15.00	20.00	17.50	7.27	12.72	10.00	**10.52**	**15.79**	**13.15**
	OD	15.00	13.00	14.00	10.00	13.00	11.50	**12.50**	**13.00**	**12.75**
	Reference sample	1.00	2.00	1.50	3.00	1.00	2.00	**2.00**	**1.50**	**1.75**
tt', tt't'' etc.	TIDM	27.58	41.38	34.48	29.33	38.66	34.00	**28.57**	**39.84**	**34.21**
	CVD	30.00	47.50	38.75	21.82	41.82	31.82	**25.26**	**44.21**	**34.74**
	OD	26.00	35.00	30.50	25.00	35.00	30.00	**25.50**	**35.00**	**30.25**
	Reference sample	15.00	16.00	15.50	16.00	17.00	16.50	**15.50**	**16.50**	**15.75**
T_{I1} and T_{I2}	TIDM	29.31	15.52	22.41	36.00	18.66	27.33	**33.08**	**17.29**	**25.18**
	CVD	35.00	35.00	35.00	50.91	20.00	35.46	**44.21**	**26.32**	**35.26**
	OD	25.00	3.00	14.00	23.00	15.00	19.00	**24.00**	**9.00**	**16.50**
	Reference sample	5.00	2.00	3.50	7.00	4.00	5.50	**6.00**	**3.00**	**4.50**
Dense and very dense network in Th/I	TIDM	24.13	27.58	25.86	50.66	48.00	49.33	**39.09**	**39.09**	**39.09**
	CVD	30.00	32.50	31.20	45.00	40.00	42.50	**37.50**	**36.25**	**36.85**
	OD	21.00	26.00	23.50	57.00	60.00	58.50	**39.00**	**43.00**	**41.00**
	Reference sample	3.00	5.00	4.00	5.00	7.00	6.00	**4.00**	**7.00**	**5.00**
a-b distance <24mm-M and <21mm- F	TIDM	36.21	44.83	40.51	9.33	18.66	14.00	**21.05**	**30.07**	**25.56**
	CVD	57.50	55.00	56.25	34.54	30.90	32.70	**44.02**	**42.95**	**43.48**
	OD	48.00	59.00	53.50	23.00	27.00	25.00	**35.50**	**43.00**	**39.20**
	Reference sample	11.00	13.00	12.00	9.00	12.00	10.50	**10.00**	**12.50**	**11.25**
Cx	TIDM	41.38	36.21	38.79	37.33	25.33	31.33	**39.09**	**30.07**	**34.58**
	CVD	50.00	27.50	38.75	30.90	14.54	27.73	**38.95**	**21.02**	**30.24**
	OD	41.00	27.00	33.50	26.00	16.00	21.00	**33.00**	**21.50**	**27.20**
	Reference sample	14.00	8.00	11.00	7.00	3.00	5.00	**10.50**	**5.50**	**8.00**

(continues)

Table 1 (continued)

Co	T1DM	12.07	8.62	10.34	10.68	4.00	7.33	**11.28**	**6.01**	**8.65**
	CVD	10.00	7.50	8.75	3.64	12.73	8.18	**6.31**	**10.53**	**8.42**
	OD	13.00	8.00	10.50	18.00	10.00	14.00	**15.50**	**9.00**	**12.25**
	Reference sample	3.00	2.00	2.50	5.00	2.00	3.50	**4.00**	**2.00**	**3.00**
Transver-sal palmary sulcus	T1DM	13.79	12.07	12.93	14.66	9.33	12.00	**14.28**	**10.52**	**12.40**
	CVD	2.50	2.50	2.50	12.72	3.64	8.18	**8.42**	**3.16**	**5.78**
	OD	5.00	4.00	4.50	6.00	2.00	4.00	**5.50**	**3.00**	**4.25**
	Reference sample	3.00	1.00	2.00	1.00	1.00	1.00	**2.00**	**1.00**	**1.50**

Table 2

Comparative data on the disposition of the palmary anomalies in carriers

Anomaly	Malady	Exclusively on the left hand	Exlcusively on the right hand	On both palms	**Total number of carriers**
A^R in Hp	T1DM	1:13=7.69	10:13=76.92	2:13=15.38	**13:133=9.77**
	CVD	5:20=25.00	12:20=60.00	3:20=15.00	**20:95=21.05**
	OD	2:14=14.28	9:14=64.28	3:14=21.43	**14:200=7.00**
L^u in Hp	T1DM	13:29=44.83	9:29=31.03	7:29=24.13	**29:133=21.80**
	CVD	4:19=21.05	9:19=47.37	6:19=31.58	**19:95=20.00**
	OD	10:34=29.41	11:34=32.35	13:34=38.23	**34:200=17.00**
tt', tt't'', etc	T1DM	9:62=14.51	24:62=38.71	29:62=46.77	**62:133=46.61**
	CVD	9:51=17.64	27:51=52.94	15:51=29.41	**51:95=53.68**
	OD	17:87=19.54	35:87=40.23	35:87=40.23	**87:200=43.50**
T_{11} and T_{12}	T1DM	32:55=58.18	11:55=20.00	12:55=21.82	**55:133=41.35**
	CVD	16:41=39.02	9:41=21.95	16:41=39.02	**41:95=43.16**
	OD	36:54=66.66	6:54=11.11	12:54=22.22	**54:200=27.00**
Dense and very dense network in Th/I	T1DM	11:63=17.46	11:63=17.46	41:63=65.08	**63:133=47.37**
	CVD	8:43=18.60	7:43=16.28	28:43=65.12	**43:95=45.26**
	OD	11:97=11.34	19:97=19.59	67:97=69.07	**97:200=48.50**
a-b distance < 24mm - M And < 21mm - F	T1DM	8:48=16.66	20:48=41.66	20:48=41.66	**48:133=36.09**
	CVD	7:44=15.91	6:44=13.63	31:44=70.45	**44:95=46.31**
	OD	12:98=12.24	27:98=27.55	59:98=60.20	**98:200=49.00**
Cx	T1DM	26:66=39.39	14:66=21.21	26:66=39.39	**66:133=49.62**
	CVD	31:50=62.00	13:50=26.00	6:50=12.00	**50:95=52.63**
	OD	45:87=51.72	22:87=25.28	20:87=23.00	**87:200=43.50**
Co	T1DM	9:17=52.94	2:17=11.76	6:17=35.29	**17:133=12.78**
	CVD	31:50=62.00	13:50=26.00	6:50=12.00	**50:95=52.63**
	OD	16:34=47.06	7:34=20.59	11:34=32.35	**34:200=17.00**
Transversal palmary sulcus	T1DM	12:26=46.15	7:26=26.92	7:26=26.92	**26:133=19.55**
	CVD	7:10=70.00	2:10=20.00	1:10=10.00	**10:95=10.53**
	OD	8:14=57.14	3:14=21.43	3:14=21.43	**14:200=7.00**

T1DM = type I diabetes mellitus: N=133 of wich 58 men and 75 women
CVD = cardio-vascular diseases: N=95 of which 40 men and 55 women – *Ana Ţarcă 2001*
OD = ocular diseases: N=200 of which 100 men and 100 women – *Ana Ţarcă 2000*
Reference sample: N= 200 of which 100 men and 100 women – *Ana Ţarcă 1995*

The same Table 1 shows that the bimanual differences manifested in the distribution of the 7 anomalies are expressed by a higher incidence of T_{11} and T_{12}, of L^u and of the palmary sulcus on the diabetics' left palm and of tt't'', etc., by the reduced a-b distance and of the A^R from the Hp – on the right palm, the last distortion – *i.e.,* the dense and very dense network of the papillary ridges from Th/I, attaining equal average percentages on the two palms (39.09%). Mention should be made of the fact that the sexual dimorphism and the bilateral differences in the distribution of the palmary distortions record, generally, tendencies similar to those manifested in severe CVD and OD.

The affection degree of the patients suffering from T1DM, considered from a dermatoglyphic perspective, at the sample level, has been evaluated by the author, too, according to the way in which the evidenced distortions are situated, on either one hand or on both (Table 2), once known that the simultaneous presence, even of only one anomaly, on both palms, means a double pathological charge and, implicitly, the doubling of its malformative effects upon the carriers [9, 13, 15, 18]. Out of the three possible modalities of the palmary anomalies' arrangement in the carriers, in the series under investigation, their simultaneous presence on both hands records the highest frequency for: the dense and very dense network of the ridges in Th/I (65.08%), followed by tt't'' – 46.77%, by the much reduced a-b distance (11.66%) and Cx – 40%. In the case of an exclusive disposition on the carriers' left hand, the most frequently occurring are T_{11} and T_{12} (58.18%), followed by Co (52.94%), by the transverse palmary sulcus (41.15%) and L^u (44.83%) while, for the presence exclusively on the carriers' right palm, the highest frequency is attained only by A^R from Hp (76.92%). Apart from very few exceptions, the disposition of the palmary distortions put into evidence follows the same tendency as the one noted for severe CVD and OD, diseases to be found in the clinical image of numerous affected patients.

CONCLUSIONS

Study of palmary dermatoglyphics of patients suffering from type I diabetes (insulin-dependent) has evidenced a large range of distortions or anomalies with serious pathological implications, both in subjects with insulin-dependent primary diabetes, and in the ones suffering from a secondary form of the malady (insulin-requiring), no matter the age of its releasing. The results obtained demonstrate that the intervention of the factors responsible for the autoimmune process of β insulinic cell's destruction in T1DM is manifesting as early as the first 3-5 months of intrauterine life, when the epidermal papillary ridges subjected to such significant reversion from normality are formed. At the level of the whole group under investigation, the observed distortions attain percent values which considerably differentiate the insulin-dependent diabetics from the apparently normal population of Moldavia, while being more or less similar to the behaviour of the

patients affected by severe CVD and OD – which are quite frequently occurring in the clinical picture of many of the affected ones (children, but especially adults and old ones).

In the distribution of such palmary anomalies, sexual dimorphism in expressed by slightly higher percent values, in the masculine series, for: the much more reduced a-b distance, comparatively with the average value found in the Romanian population, for Cx, Co and the transverse palmary sulcus and, on the contrary, for the feminine series, A^R, L^u, T_{11} and T_{12} and the dense network of the ridges from Th/I, in the case of the distortion regarding the presence of 2, 3 or 4 triradia in the same palm (tt't'', etc.), the two sexes recording practically equal percentages.

As to the distribution of the palmary anomalies as a function of laterality, one may observe that, part of them, *i.e.*, L^u from Hp, T_{11} and T_{12}, Co and the transverse palmary sulcus, are more frequently occurring on the left palm, while A^R, tt't'', the dense network of the ridges from Th/I and the much more reduced a-b distance, on the contrary, on the right palm. With only a few exceptions, the sexual as well as the bilateral differences maintain the tendency observed in severe CVD and OD.

The ample pathological charge of the palm's dermatoglyphic picture in T1DM is suggestively illustrated, too, in the present study, by the high frequency of the cases in which the palmary distortions put into evidence occur on the carriers' both hands, yet without leaving aside the situations in which they appear either exclusively on the left or on the right palm.

To conclude, the author's observations on the pathology of palmary dermatoglyphics in T1DM *suggest a possible utilization of the dermatoglyphic test as a screening method for an early discovery of the persons with diabetogenic risk*, if considering that the extremely unexpensive finger and palmary printing procedure may be performed at any age (once known their immutability along one's whole life). However, as the present study is the first developed – from such a perspective – at a national level, the investigations of this type should be continued and extended, to improve the reliability of the results.

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BODY MASS INDEX AND BLOOD PRESSURE IN OVO-LACTO-VEGETARIANS

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The purpose of the present paper is to examine the nutritional status and blood pressure vaiues of an ovo-lacto-vegetarian sample. Our case-control study surveyed 90 confirmed adult ovo-lacto-vegetarians who followed an ovo-lacto-vegetarian diet for at least 2 years against a control group of 102 nonvegetarians living in the same urban environment. Subjects' weight, height and blood pressure were measured and the mean BMI and blood pressure values of ovo-lacto-vegetarians and nonvegetarians were compared. We found that the BMI mean value was lower in ovo-lacto-vegetarians (22.51 kg/m^2) than in nonvegetarians (24.33 kg/m^2). The average blood pressure was 115.7/67.6 mm Hg for the ovo-lacto-vegetarians and 123.5/72.2 for the control group, difference that is statistical significant for $p<0.01$. Our results sustain the fact that vegetarian diet improves the nutritional status (according to BMI) and blood pressure values.

The obesity problem is recognized in the whole world and represents a real public health problem for many countries, especially for the developed ones. In one study in the U.S.A., over 53% of all deaths in women with a BMI>29 kg/m^2 could be directly attributed to their obesity.[1] Overweight and obesity are associated with a high risk of type II diabetes, especially when the adiposity excess is central disposed, coronary heart diseases and cancer. Unhealthy dietary practices and overweight are among the major biological factors contributing to an increased risk of cardiovascular diseases, which are the main causes of global mortality. The WHO attributed one third of all global deaths (15.3 million) to such diseases [2].

Several studies show an association between the vegetarian diets and a decreasing risk for ischaemic heart diseases [3], several types of cancer and all-cause mortality. [4,5] Also, it shows that vegetarians have a low risk of obesity, atonic constipation, lung cancer, alcoholism, hypertension, coronary heart disease and type II diabetes [6,7,8].

Vegetarian diet is not different from the nonvegetarian one just by avoiding meat produces. Some food substances are highly concentrated in vegetarian daily intake: antioxidants, vitamins, enzymes (especially metalo-enzymes), unsaturated vegetable fats, minerals and dietary fibers. These substances can have complementary

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mechanisms of action including modulation of enzymatic detoxification, stimulation of the immune system, reduction of platelet aggregation, modulation of cholesterol synthesis and hormonal metabolism, reduction of blood pressure, and antioxidant, antibacterial and antiviral effects [6]. Recent studies have shown that some food or food compounds have a protective effect against some maladies, such as nuts against ischaemic heart disease [9], dietary fibers against colon cancer [10] and potassium against hypertension [8].

Taking in account all these data from the scientific literature, we considered it appropriate to realize a study on a vegetarian sample in order to research the effects of this kind of diet on blood pressure and the body mass index values.

MATERIALS AND METHODS

This study involved populations living in the same urban environment that are not associated to any religious order and adopted the ovo-lacto-vegetarian diet for prophylactic or medical reasons.

Ovo-lacto-vegetarian subjects were selected so as to have a length of ovo-lacto-vegetarian diet (which consist in cereals, vegetables, fruit, eggs, milk and dairy produces) of at least 2 years.

90 ovo-lacto-vegetarians (OLV) and 102 meat-eaters (control group) were selected and their weight, height and blood pressure were measured. In order to describe the subjects' nutritional status, body mass index (BMI) values (also known as Quetelet index) were calculated, according to the WHO recommendations. [2]

For data processing and their statistical analysis, relative frequencies, mean values, standard deviations and T tests of significance were calculated for all studied parameters.

RESULTS

The main characteristics of the both studied samples are shown in Tables 1 and 2.

The mean BMI value of ovo-lacto-vegetarians is 22.51 kg/m^2 while the omnivorous sample has a mean value of 24.33 kg/m^2. The difference between their mean values is statistically significant ($p<0.005$).

Also, the differences are significant if we separate the two samples on genders and we compare the mean BMI values between vegetarian and omnivorous women ($p<0.01$) and between vegetarian and omnivorous men ($p<0,20$).

In order to compare the nutritional status of the two types of diet, the subjects from both samples were separated according to the BMI classes recommended by the WHO [2]. Over 60% of the vegetarians are within the normal weight range (63.79% of the women and 60.00% of the men), while in the omnivorous group the value is under 60% (60% of the women and 54% of the men).

Table 1

Main characteristics of the ovo-lacto-vegetarians sample

Sample	Ovo-lacto-vegetarians											
	Women (n=58)				Men (n=32)				Total (n=90)			
Characteristic	Average	Min	Max	σ	Average	Min	Max	σ	Average	Min	Max	σ
Age (years)	37.19	24	63	10.07	34.94	22	72	11.47	36.39	22	72	10.58
OLV diet length (years)	8.56	2	13.5	3.57	9.38	3	15	3.29	8.85	2	15	3.48
Weight (kg)	58.43	37	83	11.31	73.63	50	105	11.26	63.83	37	105	13.40
Height (cm)	163.64	147	180	5.80	175.34	163	195	5.98	167.8	147	195	8.11
BMI (kg/m^2)	21.75	15.89	31.25	3.66	23.89	18.36	31.35	3.04	22.51	15.89	31.35	3.58
Systolic blood pressure (mm Hg)	11.24	8	16	1.34	12.16	10	14	1.14	11.57	8	16	1.34
Diastolic blood pressure (mm Hg)	6.5	5	10	1.04	6.94	5	9	0.98	6.76	5	10	1.02

Table 2

Main characteristics of the omnivorous sample

Sample	Omnivorous											
	Women (n=60)				Men (n=42)				Total (n=102)			
Characteristic	Average	Min	Max	σ	Average	Min	Max	σ	Average	Min	Max	σ
Age (years)	36.90	20	75	14.37	44.50	24	76	12.70	41.19	20	76	13.92
Weight (kg)	63.28	42	118	14.07	74.23	52	105	11.82	67.79	42	118	14.20
Height (cm)	162.22	150	175	6.07	173.00	156	184	5.75	166.66	150	184	7.96
BMI (kg/m^2)	24.02	17	38,5	4.85	24.78	18	36,3	3.65	24.33	17	38.5	4.39
Systolic blood pressure (mm Hg)	11.67	9	17	1.64	13.32	10	17	2.33	12.35	9	17	2.11
Diastolic blood pressure (mm Hg)	6 97	5	9	1.09	7.58	5	10	1.59	7.55	5	10	1.35

16.52% of the OLV women and only 5.00% of the nonvegetarian women have a BMI value under the normal value. The percent value of the underweight class men is smaller than these values in both groups (3.13% of the vegetarians and 2.38% of the nonvegetarians).

It is important to note that 5.00% of the men and 2.31% of the women from the control sample are in obesity class II range, according to the BMI values, which has a severe risk of associated diseases (diabetes, cardiovascular diseases, etc.). There is no OLV subject registered with a BMI value high enough to frame in class II obesity range. Also, a high enough percent of subjects from both groups frame in the preobese class, with a BMI value between 25 and 29.9 kg/m^2, especially in men: 28.33% of the vegetarian men and 35.71% of the omnivorous men, against 17.24% and respectively 23.33% of the studied women. The results are shown in Figs. 1 and 2, separately for women and men, comparing the two samples from this point of view.

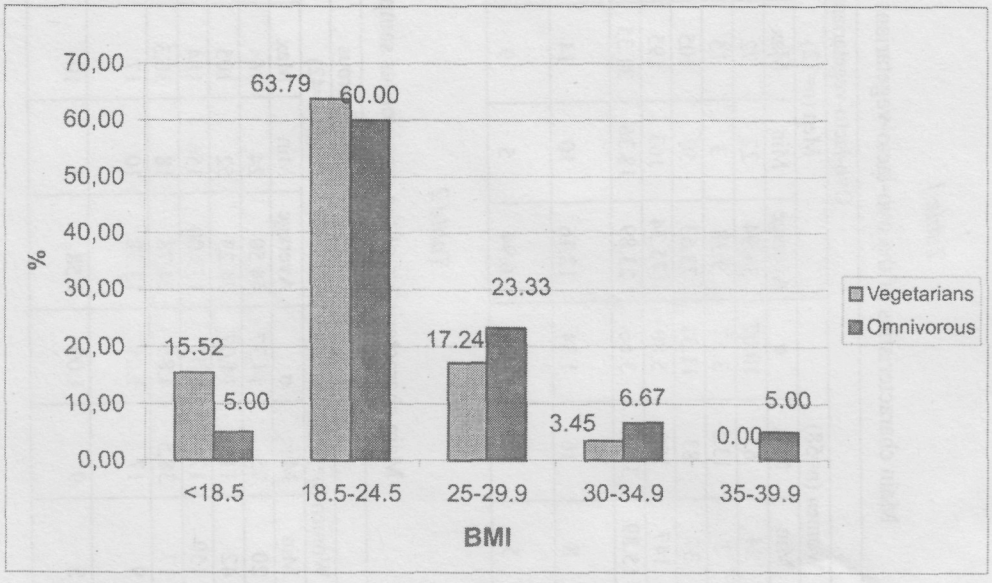

Fig. 1 – BMI variability for women in the two samples, comparatively.

The blood pressure mean value of the 90 ovo-lacto-vegetarians was 117.1/67.4 mm Hg while the mean value of the control group was 123.5/72.2 mm Hg. The difference is statistically significant for $p<0.01$ and it is maintained significant when we compare the mean values for the two groups of women: 112.4/65.0 mm Hg for OLV and 116.7/69.7 mm Hg for nonvegetarians, for both systolic ($p<0,2$) and diastolic ($p<0,02$) blood pressure. And also, the difference is significant for the values obtained from the studied men: 121.6/69.4 mm Hg for OLV and 133.2/75.8 mm Hg for nonvegetarians.

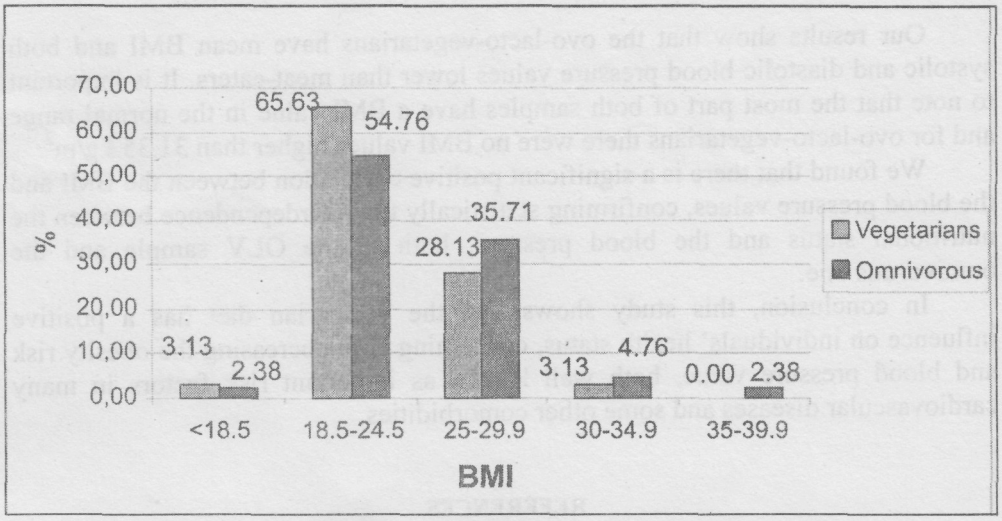

Fig. 2 – BMI variability for men in the two samples, comparatively.

In Table 3 the blood pressure mean values are shown comparatively for both groups, separately for men and women, according to the BMI classes. It can be noted that the underweight subjects have smaller blood pressure mean values, approximately 100/60 mm Hg, with no difference between genders, except the omnivorous men who have a higher systolic blood pressure mean value (120 mm Hg).

Table 3

Blood pressure mean values for the two samples according to BMI classes, comparatively

Samples	Blood pressure mean values (mm Hg)			
	Vegetarians		Omnivorous	
BMI Classes	Women	Men	Women	Men
<18.5 Underweight	102.2 / 61.1	100.0 / 60.0	106.6 / 70.0	120.0 / 60.0
18.5-24.5 Normal weight	112.2 / 65.6	120.0 / 70.9	112.2 / 68.1	128.7 / 73.1
25-29.9 Preobese	116.0 / 71.0	126.7 / [illegible].7	121.4 / 72.8	135.7 / 78.9
30-34.9 Obesity I	145.0 / 80.0	130.0 / 70.0	142.5 / 72.5	155.0 / 85.0
35-39.9 Obesity II	-	-	123.3 / 70.0	170.0 / 90.0

In the normal weight and preobese categories, the blood pressure values are also normal (110-120/6-7 mm Hg). But in the case of persons from obesity classes I and II, the blood pressure values are higher, even over the normal level, from 130/70 mm Hg to 170/90 mm Hg, confirming again the association between the nutritional status, obesity and cardiovascular diseases.

DISCUSSION

Our results show that the ovo-lacto-vegetarians have mean BMI and both systolic and diastolic blood pressure values lower than meat-eaters. It is important to note that the most part of both samples have a BMI value in the normal range and for ovo-lacto-vegetarians there were no BMI values higher than 31.35 kg/m^2.

We found that there is a significant positive correlation between the BMI and the blood pressure values, confirming statistically the interdependence between the nutritional status and the blood pressure, both in the OLV sample and the omnivorous one.

In conclusion, this study shows that the vegetarian diet has a positive influence on individuals' health status, concerning both decreasing the obesity risk and blood pressure value, both well known as important risk factors in many cardiovascular diseases and some other comorbidities.

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SERUM PROTEIN POLYMORPHISMS IN PATIENTS WITH PROSTATIC CANCER

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The distribution of phenotypes of Hp, Tf. Pi and Gc was determined in 109 patients with prostatic cancer. The statistical analysis of our findings in comparison with healthy control groups revealed no associations between particular Tf and Gc phenotypes and the disease. On the other hand statistical significant associations were found in Hp and Pi. Our study showed a significant decrease of Hp2-2 and increase of Hp 2-1 phenotypes in the patient group. Furthermore a significant increase of the M1-Z and decrease of the M1-1 phenotype in Pi was found in the patients.

INTRODUCTION

While little is known about the factors involved in the pathogenesis, some epidemiological observations suggest the involvement of a genetic component in the etiology of prostatic cancer. First of all, the incidence of prostatic cancer shows great variation in different ethnic groups (Zaridze and Boyle, 1987) and secondly, is observed more frequently in the male relatives of index patients than in controls (Steinberg *et al.*, 1990).

In recent years several polymorphic serum proteins have attracted interest as genetic markers in the investigation of disorders, where gene-environment interactions are likely to be of etiological importance. Several associations between particular phenotypes of a given polymorphism and different forms of malignancy have been reported (Mourant *et al.*, 1978).

In present study, we have determined the phenotypes of alpha-1-antitrypsin (Pi), transferrin (Tf), group specific component (Gc) and haptoglobin (Hp) in 109 patients with prostatic cancer to examine similar associations which could corroborate the pathogenesis of this disease.

MATERIAL AND METHODS

Serum samples were obtained from 109 consecutive patients with prostatic carcinoma. Hp phenotypes were determined by horizontal polyacrylamide gel

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electrophoresis. The Pi, Tf and Gc subtyping was performed by isoelectric focussing (IEF). In the case of the Pi system 3 patients were excluded from calculations since phenotyping produced ambiguous results.

Previously published population data from West-Germany were used as controls (Weidinger, 1984; Benkmann *et al.*, 1987).

The gene frequencies were calculated by both gene counting and departness from the Hardy-Weinberg equilibrium by the chi square test. In order to calculate the relative risk and to test the significance of any association the statistical test of Woolf (Woolf, 1955) with the modification suggested by Haldane (Haldane, 1956) was used.

RESULTS AND DISCUSSION

Phenotype distributions and gene frequencies of the examined serum protein polymorphisms in patients and controls are shown in Tables 1 and 2. The observed numbers in patients and controls were in close agreement with the expected values under Hardy-Weinberg equilibrium conditions for Pi, Tf, and Gc but not for Hp.

Table 1

Allele frequences of the Hp, Pi, Tf and Gc systems in pacients and controls [4, 5: Weidinger, 1984; Benkmann *et alii*, 1987]

Allele	Patients	Controls [4,5]
Hp*1	0.4495	0 3750
Hp*2	0.5505	0 6250
	x^2_{HW}= 7.34	x^2_{HW}= 0 03
Pi*M1	0 6542	0 7129
Pi*M2	0.1776	0 1711
Pi*M3	0 1215	0 0912
Pi*S	0.0187	0 0190
Pi*Z	0 0280	0.0057
	x^2_{HW}= 12.93	x^2_{HW}= 10.80
Tf*C1	0.7660	0.7885
Tf*C2	0.1514	0.1389
Tf*C3	10 826	0.0673
Tf*B		0 0053
	x^2_{HW}= 1.45	x^2_{HW}= 1 19
Gc*1S	0.5688	0.6023
Gc*1F	0 1193	0.1414
Gc*2	0 3119	0.2549
Gc*Var		0.0014
	x^2_{HW}= 0 26	x^2_{HW}= 1.75

The statistical analysis of the relative risk (RR) values does not reveal any association between Tf and Gc phenotypes and prostatic cancer. On the other hand significant associations were found in Pi and Hp.

Table 2

Distribution of HP and Pi variants in patients and controls

Phenotype		Patients %	Controls [4,5] %	RP	x^2	p
Hp	1-1	13.8	14.2	0.99	0.01	*n.s.
	2-1	62.4	46.9	1.89	9.48	0.0021
	2-2	23.8	38.9	0.49	9.37	0.0022
	n	109	880			
Pi	M1	42.1	53.6	0.63	4.04	0.0445
	M1M2	25.2	20.5	1.31	1.05	n.s.
	M1M3	13.8	12.2	1.10	0.09	n.s.
	M2	3.7	4.9	0.81	0.16	n.s.
	M2M3	1.8	2.7	0.81	0.09	n.s.
	M3	4.8	1.5	3.09	3.36	n.s.
	M1S	3.7	1.5	2.51	2.04	n.s.
	M2S	0.0	1.1			
	M3S	0.0	0.4			
	M1Z	4.7	0.8	5.61	5.79	0.0160
	M2Z	0.9	0.0			
	M3Z	0.0	0.0			
	n	109	263			

*n.s = not significant

The comparison of Pi variants showed a significant increase of the M1-Z phenotype in the patients (RR = 5.61). Increase of the Pi-Z allele has been reported in several other malignant tumours (Benkmann *et al.*, 1987; Ananthakrishnan *et al.*, 1979; Fagerhol and Cox, 1981) and seems to be associated with an increased risk for malignancy. Furthermore, we have found a significant decrease of the M1-1 phenotype (RR = 0.63) which is not confirmed by previous studies.

A significant deviation from the Hardy-Weinberg equilibrium was found in the patient group for Hp. This was due to a significant decreased Hp 2-2 phenotype (RR = 0.49) and increased Hp 2-1 phenotype (RR = 1.89). Several studies on Haptoglobin in certain cancers have demonstrated an association with the Hp 1-1 phenotype (Palmer *et al.*, 1980; Tsamantanis *et al.*, 1980; Nevo and Tatarsky, 1986; Archimandritis *et al.*, 1993). The relative risk for Hp 1-1 in our study was 0.99. However, an excess of heterozygotes in Hp were also found in patients with a family history of ovarian carcinoma (Fröhlander and Ljungberg, 1988) and heterozygosity effects in a marker system may indicate a phenotypic association with the disease in question (Beckmann and Fröhlander, 1990).

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RELIGION, SOCIAL DESCENT, AND CULTURAL MEMORY IN A VILLAGE FROM MARAMUREŞ*

MARIN CONSTANTIN

The article examines the relation between the religious denomination, the social rank descent, and the cultural memory in the village community of Lăpuş (Maramureş county). The author argues the heuristic importance of correlating some socio-cultural aspects apparently isolated from one another, yet relevant in their interdependence for understanding the cultural pattern specific to the villagers of Lăpuş. Identifying the links between the above ethnographic aspects reflects a methodological approach representative for cultural anthropology, namely holism.

The village of Lăpuş (Maramureş county, Northern Romania) has a majority population of Romanian identity, comprising some 4,000 people, among which there also live a few Hungarian and Roma families. The Romanian ethnic majority also explains the current name of the village (= Lăpuşul Românesc), as well as a historical distinction from "Lăpuşul Unguresc" (nowadays, Târgul Lăpuşului), an urban locality at 10 kilometers away from the Lapuş village.

From a religious point of view, Lăpuş village is divided between two Orthodox and one Greek-Catholic parishes. There is between the two denominations a disproportion reflected in the fact that Orthodox believers hold the two main churches of their village, while the Catholics are only allowed to officiate in a older wooden church, marginally situated, and of small size. The Orthodox faith of the most of the present villagers of Lăpuş follows a forced spiritual conversion of the majority Greek-Catholic local population, obliged to accept Orthodoxy under the Romanian authorities' pressure, after 1948.

A biographic account. In the summer of 1998, I conducted a field research in the Lăpuş village. Linked to local kinship structures, my ethnographic interest was materialised in a genealogical inquiry of the lineages of Pop and Giurgiu

* The field data were gathered in August 1998, during a research the author conducted together with Şerban Stelu, under the direction of Prof. Dr. Gheorghiţă Geană, through a grant contract sponsored by the Romanian Academy of Sciences.

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(I shall return to this inquiry). It was in this way that I knew Gheorghe Pop (74 years old), who – after greeting me with hospitality – told me an event concerning the imposed Orthodox conversion 50 years ago:

> "[At present] ... we live here Catholics and Orthodox believers together, as we have been since the communists came over us, do you understand?... There were only Catholic people in our village, in Lăpuşul Românesc. There were no Orthodox. [...] Thereafter, the communists came, and... there was a priest in our village, one named Oniga Tănase. In 1948. And we were told at the church that two activists of the Communist Party had come. They held a meeting. The priest was to be arrested... Unless we became Orthodox. Our youth in the village had [then] their folk dance reunion. in the centre [the village centre]. And a woman came and told to young people: 'Come. young men, they [the activists] want to take our priest away!' The young people stopped their dance and went to the Mayor's. Two party activists were there, with their motor cycles, as they had come from the county authorities. A woman had in her bag a kilogram of nails... And she was the first to hit one of those activists on his head. The young men hit him too, and the scandal began. Then, in 1948, our villagers remained mostly in the [village] centre, around the priest. They [the activists] stayed away from the people. They tried to run away down the river, lest they should be beaten. What did they [the villagers] do? When they heard what had happened, the people went along the riveranks. The activists, then, entered the river... When they were trying to get out of the water, they faced the women, the people, with forks and hoes. And they [the activists] got back to the river, and so until they got out of the village. [...] This happened on Sunday, at three o'clock. On Wednesday night, the Securitate forces surrounded our village. At 12 o'clock at night, someone came and pulled the church bells, and the people got out [from the houses] to see what it was... The Army soldiers were on the village lanes. Every villager sought to take some pail and fork from his household. The soldiers said, 'Freeze!' All the village community was gathered at the school... Everybody was checked, who beat [the activists], and who did not. They [the Army forces] brought there some villagers who did not want not to become Orthodox believers. My father was a premier-curator of the Greek-Catholic church. There came someone from the Cluj Orthodox Episcopacy, to get the villagers' [adhesion] signatures. One of the villagers, a wise man, told my father: 'Ion, don't sign in, as your signature will remain there for ever, and the people will look at your children since their father passed to the Orthodox church'. [...] My father left and hid himself. He refused to sign in. [...] Our village was so Catholic that the priest did not want to officiate the marriage of two people who had been married before. [...]"

Legend of the founding of the Lăpuş village. During the same research, one of the villagers allowed me to read a historical monograph about the Lăpuş village, due to Vasile Viorel Pasca (1997). It was a work comprising a series of documentary data of great importance for understanding the current socio-cultural realities of the village. V.V. Paşca points out (1997: 70) an etiological legend of Lăpuş, registered by Iosif Kádár at the beginning of the 20th century (cf. Kádár, 1901-1905):

> "They say that in its beginnings, the village of Lăpuşul Românesc was called Dragomir. It laid at the foothill of the surrounding mountains, at the entry of the Ruoaia valley. Where the today's village is, there was in the past a huge ash-tree forest. It was there that two black bulls used to retire in the shadow, during the arson days; they did not come back to the herd of the village, but remained night and day in that forest. The villagers gave a particular significance to that event, so that they built a church there, using girders large of 1.2 meters. That church is said to be the *nemeşi*'s [ennobled peasants], as it had been built by them."

A feudal conscription in 1766. V.V. Paşca also mentions (1997: 90-93) a feudal conscription of the serfs belonging to barons Gheorghe Szentkereszti and Ştefan Daniel, in 1766. It is a list with the names of 105 heads of serf families, among whom six families with the patronyme of "Jurj". The same conscription indicates the name of noblemen families – the so-called *nemeşeşti*: one could identify among them 10 families bearing the patronyme of "Pop".

Descent and social tradition at Lăpuş. From a socio-cultural perspective, the village of Lăpuş keeps a several century-old tradition that distinguishes the noble and the serf peasant origins of the local people. The local tradition of the rank descent is also reflected in the territorial distribution of the *nemeşesc* [the peasant noblemen] and the serf neighbourhoods of the village, separated by the little river of Lăpuş.

As a result of our research on the genealogies of two local lineages, Pop (110 households) and Giurgiu (80 households), we found out a different situation of those ligneages' residential centre. Thus, the Giurgius (with a serf descent attested by the feudal conscription in 1766) are especially situated in the lower side of the village, while the Pops (= nobiliary descent) do mostly inhabit the upper side of Lăpuş. Statistically figured, the majority proportion is of 75% among the Giurgius, and of 55% among the Pops, which is to indicate their demographic residential centre.

Although the territorial disposition of the lineages of Giurgiu and Pop fits the data of the local tradition as to the difference of social rank, the present inhabitants of Lăpuş are gradually detaching from such a heritage. Along the 20th century, 30% of the marriages contracted by the Pops included partners coming from the serf lineages, while 16% of the Pops had a marital orientation to the peasant noblemen's lineages.

Conclusion. The ethnological understanding of a historical fact. In cultural anthropology, the scientific knowledge is authorised by doing fieldwork. Ethnologists usually choose as a study object the little communities (also called "inter-knowing communities"), such as villages. Anthropological explanation on the culture facts is elaborated on the basis of an ethnographic stage among such a community.

With respect to the study of political totalitarianism in Romania, we have reproduced the biographic account of Gheorghe Pop in the Lăpuş village of Maramureş. A historical approach of such an account would probably refer to the external context, of a socio-political nature, of the setting up of communism in Romania and of the forced conversion to Orthodoxy of the Greek-Catholics in Transylvania. Gheorghe Pop's narrative is indeed most relevant as to how the inhabitants of Lăpuş tried to oppose, for the Catholic religion'sake, a political process that unfortunately substantially exceeded their village community's framework.

One could ask what is the relevance of a methodological juxtaposition of an etiological legend, of some data on social history (feudal conscription) and of cultural-anthropological aspects (tradition of the social descent, residential centre, and marital orientation) – in relation to old Pop's "life history"? Apparently disconnected, these oral elements have nevertheless *together* a heuristic significance as regards the community identity of the inhabitants of Lăpuş.

We have indeed noticed that the current tradition of the rank descent is confirmed at the territorial level by the distribution of most of Pops' and Giurgius' households. This occurs even though the obvious trend is to erase the (historical) distinction "nobleman"-"serf" (see the location of Pops' lineages, as well as the marital orientation of the two kinship networks). Other evidence is that, at the level of personal identity, Gheorghe Pop relates to a nobiliary descent (his father, under the communist oppression, was a "premier-curator" of the local Catholic church). Finally, the story of the founding of the Lăpuş village evokes, in its turn, a "peasant noblemen's church", though relating to a period (the 14th century) previous to the ennoblement at Lăpuş (which began in 1590, see Paşca, p. 38).

As a result, it seems clear that the rank descent is followed at Lăpuş by the need of religious legitimacy. Even though Gheorghe Pop's evocation does not mean that only the peasant noblemen opposed the communists, we can claim (as a hypothesis for a next research) a more effective affinity of the *nemeşi* and of their offspring with the Catholic Church, than would have been the case of the serfs.

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AN IMPORTANT INTERFACE OF THE PRESENT HOMO SAPIENS. HOMO INTERNATIONALIS

CORNELIA GUJA

Our paper demonstrates with interdisciplinary arguments the hypothesis that there are certain polarized phenomena between ethnicity and the global character of the community, between individuality and the ethnic group, between the latter and the state, the state and the human society on the whole (with opposite, but not contradictory poles). The awareness that there is an imminent international context which conditions our life and can no longer be ignored today, stresses its imprint on the essence of the *Homo* species owing to the international character of the communication systems, of economy, commerce, etc. even of the spreading of religious communions. These phenomena do not imply losing ethnicity; they imply rather a more intense activity of exchanging values and historical experience. Using interdisciplinary complex modeling methods we have conceived an anthropological model *considering the human being – Homo internationalis – as an interface phenomenon, an informational phenomenon* developing from the collective information which it stores, analyses, processes and retransmits, under reprocessed forms, in its own manner, to the international circuit of cultural values.

Motivation. For the International Union of Anthropological and Ethnological Sciences, IUAES Inter-Congress, with the theme "Mega Urbanization, Multi-ethnic Society, Human Rights and Development", Universuty Calcutta (Kolkata), in India, 12-15 December, 2004, I proposed an interdisciplinary and transcultural session where specialists from various fields were to contribute to outlining, as completely as possible, the profile of *Homo internationalis* as a dominant type of the society of the future. That was accepted [21].

For our age of intense extension of international relations we find a general tendency of *redistribution of activity types* towards those implying great adaptability, open to culture, politics, constructive or destructive responsiveness and physical, psychic, social-economic and cultural "mobility". *Homo sapiens internationalis* appears to be more and more an individual character – seeking means of living and knowledge – or a collective character – multinational enterprises, consular agencies, banks, communication, sports and scientific competitions, political reunions, artistic manifestations, etc. He represents his own interests or interests common to a group at an international level and ensures the circulation of

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values in international culture. Outstanding *human performances* are required so that the result of his activity may contribute constructively to solving problems of multiple finality: personal, local and international.

The existence of complex training and educational systems as a synthesis of the whole ethnic-cultural patrimony of mankind proves to be a major objective. I formulated some of the objectives to be pursued so that the two variants: *Homo ethnicus* and *Homo internationalis* should coexist in the same individuality without contradictions, in wise collaboration, in order to annihilate the imperialist and international terrorist tendencies. In the end of the session, some functional methods for studying international problems and some functional models for *Homo internationalis* were foreshadowed, which meant that the objective was attained [2, 3, 4, 5, 12, 18, 19, 20, 21].

Our paper demonstrated with interdisciplinary arguments the hypothesis that there are certain polarized phenomena between ethnicity and the global character of the community, between individuality and the ethnic group, between the latter and the state, the state and human society on the whole (with opposite, but not contradictory poles, having a balancing role similar to that of the couple centripetal-centrifugal forces).

Art, science and technology, the fields of knowledge in general are factors of cohesion and coexistence, which determined the expansion and evolution of human communities during the history of the human society. At the same time, *the family,* the birth habitat or the ethnic territory, the inherited religious ritual, are factors that build up one's own identity, one's ethnic conscience as a way of living. Our hypothesis is the natural outcome of all the present international researches as well as our own investigations of the great intra species variability and the unity of the Homo species, that of having been, through its genesis, the result of equilibrium between a *Homo ethnicus* and a *Homo internationalis* born on the planet Earth.

The awareness that there is an imminent international context which conditions our life and can no longer be ignored today, stresses its imprint on the essence of the *Homo* species owing to the international character of the communication systems, of economy, commerce, etc. even of the spreading of religious communions. These phenomena do not imply losing ethnicity; they imply rather a more intense activity of exchanging values and historical experience. Using interdisciplinary complex modeling methods we have conceived an anthropological model considering the human being – *Homo internationalis* – as an interface phenomenon, an informational phenomenon developing from the collective information which it stores, analyses, processes and retransmits, under reprocessed forms, in its own manner, to the international circuit of cultural values. Nevertheless, he is at the same time, the synthesis of *Homo habilis*, *erectus*, etc., *sapiens* which passes today to a new taxon, that of *Homo internationalis*. Being a product of special, possibly unique conditions, he must finally identify with the fate of the planet which gave birth to him.

The necessity of an integronic approach. The two opposite poles: *Homo ethnicus* and *Homo internationalis* must coexist within the same individuality, free of contradictions, in a wise balance in order to avoid the tendencies of unipolarization, extremism and unbalance. When the awareness of the cosmic context becomes, in its turn, imminent, there will be a leap to *Homo cosmicus* [1,4,16]. In this paper we present a theoretical structure regarding the integration of the human being in nature, society and the universe, which we call "Homointegronics". **Integronics**, subscribes to the "cognitive ideals" of the human society, which is in a complex process of transformations, a large number of interacting factors being implied, from the cosmic ones to the quantum phenomena in the human brain. Integronics is expected to offer explanations and to ensure the possibility of a scientific approach, which should be at the basis of the processes of social-human decision and action and which should have as finality a state of collaboration, co-habitation, optimum correlation – of coexistence. "Integronic thinking" is a modality of interdisciplinary synthesis between the theory of systems, cybernetics and the theory of information useful for understanding the integrality of human phenomena based on the concept of *informational interface* [6, 7, 14]. *In this field I have developed the* ***Homo internationalis*** *concept as an interface.*

We call **interface** any natural or artificial manifestation mediating one or several components of material and/or spiritual reality. The concept of interface is complementary to that of system, widespread nowadays. The tendency of individualization, autonomy and independence is associated with a tendency to unite and communicate, present with all existing individualities.

The interfaces "signal" interactions and interdependences of a certain kind, variable and ephemeral, therefore difficult to delimit. We can have as many interfaces as means of communication that can be established among all the bodies and phenomena existing in the Universe. In this sense we can mention only various level interfaces: 0, 1,.....n, according to their complexity degree [7, 8, 13].

We have created an original graphical representation of the investigated measures called *integram* based on the results of anthropological interdisciplinary researches on population and individuals. By the characteristics which define a human community or an individual we have pointed out certain interdependence relations that are expressed by a distribution law, called *Homo ratio*. Various integram analyses have demonstrated that there are some symmetry and proportion (ratio) laws which determine a value hierarchy between the *dominant classes* of the characteristics. These laws define both the variability and the integrality of the human groups for human collectivity forming and structuring. For a community's stability and functional unity there has to be a certain distribution of the elements characterizing them, some dominant others secondary, absolutely necessary for preserving integrality and stability. We have called this kind of human group an *integron*; in the opposite case it forms an *non-integron*. By defining the integron phenomenon as an *interface phenomenon* we are trying to broach, from another

perspective, the human integration into nature, a modality that requires keeping the proportion system in which *sex ratio*, for instance, well known in genetics, is one of the manifestations of this law. Integration of human communities based on certain proportions of their characteristics variants is particularly informational.

Adopting this point of view makes it possible to differentiate, in the complex interaction processes, the *reciprocal* dependencies from the hierarchical ones, with which they *interfere* and on which they have a *modulating* effect, and sometimes may finally lead to their *annihilation.* The new point of view operates with *characteristics, coordinates, measuring systems and its own experimentation methodologies* imposed by the specific character of the "coexistence phenomenon", whose material support consists in the interface zones, which are *critical state zones,* passing from one dominance to another. These zones are at the same time *"zero", compensating, ambivalence, conflicting states,* and, as finality, they are the support of *maximum lability phenomena with determining role in the evolution of the systems in which they were structured.*

Out of the analyzed problems the following are worth pointing out [1, 6, 7]:

- the necessity to characterize the tendency couples by analyzing the extreme (polar) states and *the peculiarities of the states* in which various degrees of dominance of one of the tendencies over the other are manifested;
- highlighting the critical area zones where one passes from one dominance to another; *signaling the dual qualities coupled mutually*;
- identifying the interaction type between couples characteristic of the category of phenomena to which the approached aspect belongs and the *peculiarities* of various other couples that may be found in several categories;
- highlighting the *coexistence* phenomena *of some couples* with other couples;
- signaling the cases of *couples coupling*;
- the necessity to find certain *coordinating systems* that should allow the study of the coupled, coexisting, coordinated phenomena in which one should be *able to simultaneously describe events* occurring in extreme states, in the dominance states and in the critical states;
- highlighting the triad type interactions (for instance triad substance, field, information) which simultaneously show three co-participating tendencies and which very well describe real coexistence phenomena; they represent the "resistance structure" of the edifice which is being reinforced, "the science of *information*".

As a result of the intention to find more satisfactory solutions to the presented aspects, there followed a series of notions with high theoretical and experimental operational possibilities, therefore with great ontological and gnoseological relevance:

- **coexistence** – notion marking the existence of coupled interactions as a source for multiple reciprocal interdependencies; at present the triadic aspects are more familiar;
- **interface** – notion designating the relation structures resulting from double, triple, etc. interactions which may be of reciprocity, intermediacy, *i.e.*, relation systems;
- **cohesion/dissociation** – notion for the characterization and concrete explanation of the coexistence phenomenon, as a result of *several simultaneous tendencies;* the resultant may be evaluated quantitatively by measuring the effect of phenomena coupling, association, and *unity*;
- **integration** – notion allotted to the *phenomenological resultant* of the complex process of multiple coexistence; integration expresses and *confirms* the finality of the process and can be measured;
- **referential multiple** – name given to a system of coordinates with *bipolar, bidirectional axes, attached to each interacting couple* and having their critical points as origin; in this way "the origin zone" corresponds to the interface states, which is in favour of the assertion that the interface is a referential multiple framework;
- **symmetry, complementarity, homogeneity** – notions proposed for types of bipolar coordinates which are used to build referential multiple systems.

While studying the human phenomenon very complex reciprocal connections appear among the physical, psychic and social components. Here we need to introduce the notion of *human condition.* It defines the inter-connection between the biological infrastructure, the psychological structure and the social superstructure. The individual's anthropology is necessary both for determining the individual's human condition, and for understanding and specifying the action of society over the human personality and reciprocally, the individual's influence upon society [1, 6, 7].

Human individual modeling by means of specific interfaces. Starting from the results of our laboratory researches, a series of concrete, operational patterns may be created, in which the human being is regarded as an interface with various functional-informational structures. The information is organized according to the anthropological model of the human being studied as a succession of **specific interfaces (I.)** 1,...7 (Fig. 1.):

1. Ecological-*integrating* I.
2. Biological-*cultural* I.
3. Physical-chemical-*sentimental* I.
4. Spiritual-*transcendent* I.
5. Psychic-*conscious* I.
6. Cognitive-*axiological* I
7. Cyclic-*evolutive* I.

and **fundamental interfaces** I, II, III (Fig.2):

I. The human being, interface between microcosms and macrocosms.
II. The human being, interface of universal communication (Fig. 3).
III. The human being, cyclic, evolutive interface

The surrounding reality is perceived by the human being in a first impact by communicating coexisting systems (seven levels), *i.e.*, by received information. At the depth level, coming after the ecological one, the biological level, respectively, the fundamental concepts are dynamic transformation and evolution, that is, the biological interface [10, 11, 14, 17]. The next level, physical-chemical, describes conformations, bodies and phenomena (conformations, *i.e.*, the chemical formula, it describes bodies made up of chemical elements with a certain function). The next level is the psychic one, different by its very fundamental concepts, substance, field and information. Here end the physical levels familiar to us by means of biophysical and biochemical experiments. Here start the mental levels, which operate by means of symbols. Hence cognitive sciences try to clarify what knowledge is, which, for the time being we divide into personal knowledge, specific of the individual, and collective knowledge, specific of society.

HUMAN INDIVIDUAL MODELLING AS AN INTERFACE

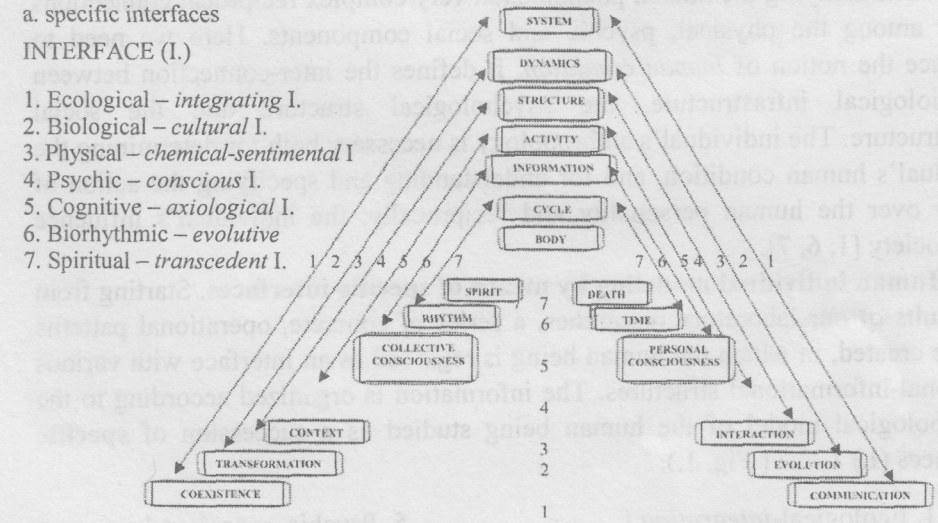

Fig. 1– Human individual modeling by means of specific interfaces.

The analysis starts from the outside towards the depths, each level having a specific analysis. Signal decoding at level 1 (ecological level) requires finding of

successive steps by which a signal goes through various interfaces (according to the place of pathology, in the case under discussion) at various integration levels (levels 1-7). The elaborated pattern is therefore informational. The recorded information penetrates the seven levels, being received, memorized, processed, analyzed, re-elaborated and retransmitted with the specificity of the respective level. Each level moulds information according to its specific code. The analysis is made with methods taken from all the sciences contributing to knowledge in the case of the respective level.

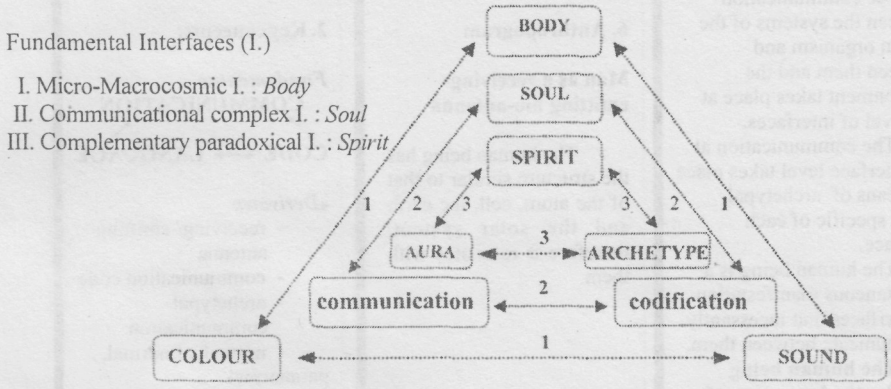

Fig. 2 – The concepts that describe the human being by fundamental interfaces.

Knowledge operates with symbols, according to C.G. Jung's theory [9]. These symbols come from archetypes, namely in depth they come from primary patterns. We have reached level two, the archetypal level, characterized by space and time. Beyond this level, beyond the planned experiment occurs the transcendent, scientifically unexplored level, beyond experience. Here we can speak about the dimensions of existence. We perceive space by means of three dimensions, spatial dimensions, time by a temporal dimension and archetype by an archetypal dimension, outside space or time or trans-spatial and temporal. This pattern was conceived to be interactive, helping us have access to an individual by analyzing the signals coming to the outside of the body, which can be information from various levels.

The anthropological model for the human being, built on the basis of integronic thinking, has revealed the human being as a *succession of system/interface couples*. The analysis of the concepts that describe man by means of interfaces with the help of the integrating levels indicates that, in order to know the *categories of significance-information*, it is necessary to include *transcendental dimensions* in the pattern of the human being [7, 8, 13].

In this model, one may foresee accessible ways for research and knowledge by the human being's transcending capacity, using the operational notions of *form, symbol, archetype*.

COMMUNICATION – *COMPLEX* INTERFACE (I.C.Cx.)

Key syntagma: informational field, communicational interfaces

1.Interface definition
(I.C.Cx.)

The communication between the systems of the human organism and between them and the environment takes place at the level of interfaces.

The communication at the interface level takes place by means of archetypal codes specific of each interface.

The human being is a simultaneous manifestation of interfaces that incessantly communicate between them.

The human being decodes the languages of the systems surrounding it trying to understand them. Paradoxically he lags behind with self - understanding.

6. Anthropogram

Man as a receiving-emitting bio-antenna

The human being has the structure similar to that of the atom, cell, the earth and the solar system, therefore it resonates with them.

2. Key concepts:

Fundamentae

COMMUNICATION

CODE ⟷ LANGUAGE

•Derivates

- receiving/ emitting antenna
- communication code
- archetypal communication
- normal, abnormal, paranormal communication
- "the tree of life"
- "the tree of knowledge"

3. Key problems-questions:

- What are the modalities in which systems communicate?
- The part played by the halo of the human being in communication with the environment and interhuman communication?
- Types of codes and languages.
- What are chakras, and their part in communication.

5. Applicative features:

- **Interface diseases:**
  - communication diseases
  - complex diseases
- **Interface therapy:**
  - communication therapy
  - complex therapy

4. Soluții de coexistență

- Knowing the codes
- Observing the codes
- Finding new codes
- Decoding of universal, archetypal codes
- Use of archetypal codes in new configurations

Fig. 3 – Communication – *complex* interface (I.C.Cx.)

Within this context we understand *transdisciplinarity as a concept referring to the consequences of the transcending quality of the human being over knowledge and research, man being at the same time researcher-connoisseur and the object of the research, i.e. system and conscientious interface. We can write a Homo Internationalis' formula:*

Homo (H.) Internationalis = ∫ (H. Early + H. Classical + H. Modern)

Identity levels: individual, national, international. The problems of identity of an individuality or of a human community is very complex and has interdisciplinary connotations especially anthropological. Identity is difficult to define, being implied and dependent on the context it refers to. Yet it is a reality we consider with many sides, intrinsic interface of the essence of the human being.

One can speak of a permanent search of one's own identity, of a biological or genetic one, of social, national or international identity (validated by the simple or diplomatic passport), etc. The study of the phenomenon of human variability as object of fundamental study of anthropology requires, on the one hand defining of the human individual's identity (as a genetic uniqueness). In this case the individual may identify only with himself, which is paradoxical if we have in view the individual's permanent change in his ontogenesis and the teenager's identity crisis. On the other hand, trying to establish human similarities and differences, one goes through various degrees and identity levels within the different collectivities. In respect of the cloning phenomenon the problem of identity leads us to another paradox: is it non-identity or maximum identity? Finding identity landmarks is extremely necessary and important.

From the anthropological point of view the concept of identity helps to define man in his historical evolution and even to redefine the present man. In this paper we have intended to explain the theme of identity by means of a model of the human being conceived by us – an anthropological model of the human individual regarded as a complex of subsystems and interfaces structured during evolution and adaptation to the environment. This offers us the possibility to discern a few identity levels which indicate its structure, organization and integration in nature and society.

CONCLUSION

The interfaces describing our anthropological model are organized in the following levels: individual (biological, genetic), national (cultural) and international (spiritual, symbolic, archetypal). Based on the analysis of interface compatibility, one may divide the elements of similarity and identity in the human body alongside with those of differentiation and peculiar characteristics. We have reached the conclusion that in the modern stage of our evolution a new form of spiritual identification, communitary, planetary, of a *Homo internationalis,* is attained.

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DIVORCIALITY. DEMOGRAPHIC ASPECTS OF YOUNG PEOPLE'S PERCEPTION REGARDING DIVORCE

CORNELIA RADA, GALINA MUŞAT

This study presents the evolution of the divorce in Romania in the period 1940-2001 and the main generating factors. We also bring into attention young people's reporting to divorce as to a nonexperienced situation. This is the valuation of a questionnaire regarding divorce as perceived by 305 subjects, young people enrolled in colleges and universities in Bucharest, used in a research bearing the title "The family – socialization instance, keeper and transmitter of values", between 2002-2003. Marriage setup based on psychological comfort and sexual satisfaction to a larger extent than based on the need to have children has generated a change in the mentality regarding the divorce.

1. DIVORCIALITY. DEMOGRAPHIC ASPECTS, URBAN RURAL DISPARITIES

Divorciality "represents the demographic phenomenon expressing the frequency of divorces within a certain population. Divorce is the legal modality to dissolve marriage. Divorce is an event, divorciality is a phenomenon" (Mitrofan, Ciupercă, 1998, p. 136).

Divorces depend upon environment. In urban areas, especially in capitals, they are 2-4 times more frequent than in rural areas. During 1923-1938, in Romania, less than 8,000 divorces by year were declared, in 1938 they exceeded 13,000, while in the period 1935-1939 the divorces annual average was 11,381, that is 6.6 divorces for every 100 existing marriages (Banu G, 1944, p. 238, 302).

In Europe and North America in the period 1950-1970, divorciality rate grew up and then remained constant or decreased due to the extension of consensual free unions (Mihăilescu, 2000).

Despite the increasing number of divorces, the divorciality rate in Romania is lower than in Western Europe and the USA.

In Fig. 1 is represented the evolution of divorces in Romania in the period 1940-1989. Over a period of approximately 25 years we can notice the increase of the number of divorces. The year of 1967 is marked by a significant decrease of divorces due to some legal acts regarding the divorced, enforced in October 1966. After 1967, the rate increased moderately until the year of 1970, becoming a 4 times bigger in 1975. In the period 1975-1989 divorciality is maintained, with small differences, at a similar level with the year 1965.

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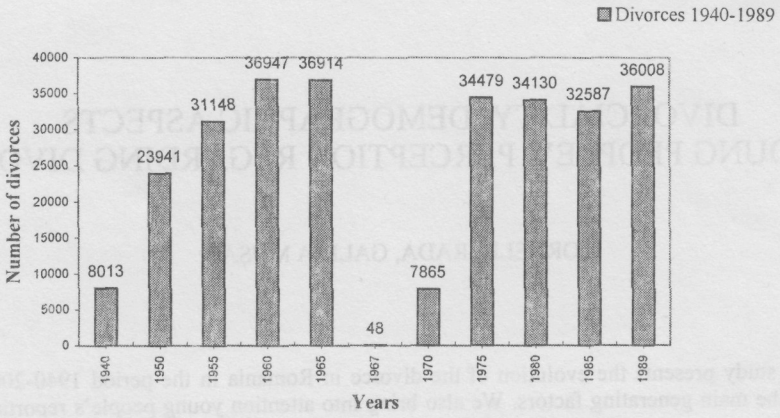

Fig. 1 – Divorces in Romania during 1940-1989.

Fig. 2 presents the evolution of divorces by areas in the period 1990-2000.

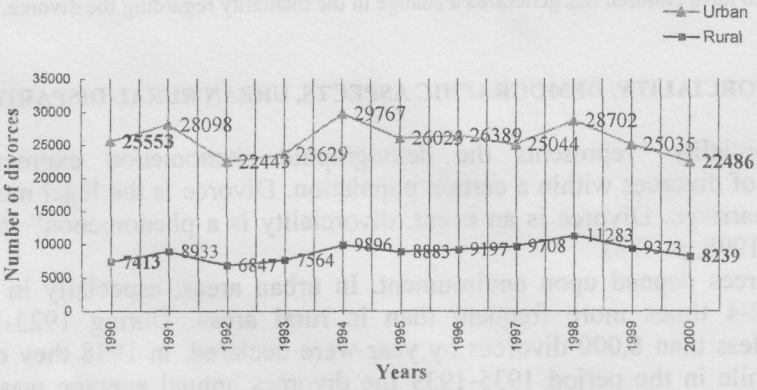

Fig. 2 – Divorces by areas, 1990-2000.

In the year 1990 the number of divorces was approximately 3.1 times lower in rural areas and in the year 1995 2.5 lower, the divorciality rate difference between the two areas tending to decrease. The growth of the divorce number recorded in both areas in the period 1994-1998, is only a conjunctural phenomenon, caused by legislation and formalities alleviations in respect with marriage dissolving.

In Romania, in 2000 the number of divorces legally pronounced was grater in urban areas (22,486) in comparison with rural areas (8,239). In the period 1990-2000 in rural areas, with a the peak in 1998, 11,283 divorces were registered.

The number of divorces increased to a small extent in 2001 compared with 2000 due to the divorces in rural areas. Generally the number of divorces in rural areas is approximately 2.1 times lower than in urban areas and, consequently, the number of minor children resulting from dissolved marriages is lower (see Table 1).

Table 1

Divorces by areas in 2001 comparatively with 2000

	Number of divorces		
	2000	2001	Difference 2001 *versus* 2000
Urban	22486	22362	-124
Rural	8239	8773	534
Total	30725	31135	410

Source: the Romanian Institute of Statistics, *Divorţialitatea în anul 2001,* Bucureşti, 2002, p. I.

Here are some relevant data regarding divorciality as provided by the Romanian Institute of Statistics (INS, 2002, p. 21-29).

– an increasing trend of divorce prematurness can be noticed, and this, to a high extent in young people under 25, mostly in the first 5 years of marriage;

– simpler formalities required for marriage dissolution in 1994 led to an increase in the number of divorces. Thus the conjuctural divorciality index increased from 0.17 in 1992 to 0.23 in 1994, maintaining a constant level till 1998 and decreasing thereafter to 0.19 in 2001;

– the number of divorces in urban areas is grater than in rural areas. In 2004 it was 2.1 times bigger, but this difference urban/rural tends to decrease;

– the most frequent reasons invoked for divorcing were infidelity, alcohol abuse, physical violence. In the case of males alcohol abuse was the main reason invoked, and in the case of females infidelity;

– the number of divorces imputable to males' behaviour is about 4-5 times grater than divorces imputable to females;

– there is a certain relation between divorce percentage and religious belief: divorces with catholics are more rare comparatively with protestants, orthodox and mosaic.

In the last 10 years significant changes of the divorciality rate have not been noticed: 1.42 divorces for 1,000 people in 1990, 1.39 divorces for 1,000 people in 2001. In spite of that, following both nuptiality and natality decrease, and alleviated legislation on the marriage dissolution, divorciality rate may be further modified.

In most cases a legal dissolution of the mariage is preceded by two steps: erosion, materialized in showing one's dissatisfaction, and separation, not always followed by the divorce. After divorce, the former spouses need a period of time to adapt themselves to the new life conditions.

2. THE YOUNG PEOPLE AND DIVORCIALITY

2.1 METHODOLOGY OF RESEARCH

During 2002 and 2003, we carried out a research called "Family – instance of socialization, values carrier and transmitter". We proposed ourselves to identify values, attitudes, young people's ways of thinking and feeling in experienced and nonexperienced issues related to family ant its roles.

A stratified monostadial sample included 305 young people (144 girls, 161 boys) from Bucharest, last high-school class (theoretical, technological, vocational fields) and higher education (technical, university, economic, medico-pharmaceutical, juridical and artistic). An educational institution from each group was randomly chosen. The low financial resources did not allow a proportional selection, so that each cluster (high school class, university group of students) included aproximatively 30-35 subjects.

A questionnaire was appplied, with 21 items dealing with different issues such as: major existential events (first sexual relationship, marriage, birth of first child), options for marriage or free union (transitory or permanent), marital dissolution, relationships between genders, perception of the seriousness of different violations of the normal marital behavior, a.s.o. One of the aspects targeted was to identify young people's perceptions regarding divorce.

2.2 RESULTS

As we can notice from Table 2, young people tend to be permissive as to the divorce, expressing in certain circumstances rather their agreement than disagreement in this respect.

Table 2

Young people's opinion regarding divorce, marital dissolution

No.	Please express your agreement degree in respect to the following affirmations	Strongly agree	Partially agree	Strongly disagree
1	For the sake of the child the parents must stay together even if they are no more in love	17.4	36.1	46.5
2	Divorce is a solution to get out from marriage failure	**26.9**	49.2	**23.9**
3	The divorced persons are marginalized	3.3	23.3	73.4
4	For financial comfort it is preferable not to take the divorce option	7.9	30.8	61.3
5	Divorce may give the chance to find a suitable partner	**38.7**	45.9	**15.4**
6	The divorce laws must be alleviated	**33.8**	47.5	**18.7**

As to the young people's agreement to divorce, we can notice:

– agreement / disagreement to the divorce being is a solution to get out from marriage are very close, slightly bigger for agreement (26.9%) than for disagreement (23.9%);

– 38.7% strongly agree that divorce may give a chance to find a suitable partner, while only 15.4% strongly disagree;

– 33.8% consider that divorce legislation must be alleviated, while only 18.5% strongly disagree;

As to the young people's not favouring divorce we can note:

– only 17.4% agree to the idea that the spouses must remain together for the child's sake even they do not love each other any more, while 46.5% strongly disagree;

– only 3.3% strongly agree to the idea that the divorced are marginalized, while 73.4% strongly disagree;

– only 7.9% strongly agree to the idea that for financial comfort it is preferable not to take the divorce option, while 61.3% strongly disagree;

Developing a correlation between young people's perceptions on divorce, using indicators that characterize the sample structure (sex, age, occupational statute, parent's level of education), some statistically significant points of view were noticed. In the following, we will only discuss the differences between genders regarding the perception of divorce; the other evidenced correlations will be presented in a future work.

Table 3

Degree of agreement regarding parents' cohabitation even if they stopped loving each other, depending on the young people's gender

For the sake of the child, the parents must stay together even if they are no more in love		Gender			
		Male		Female	
		Frequency	%	Frequency	%
Disagree		33	23.2	109	76.8
Partially agree		64	58.2	46	41.8
Strongly agree		47	88.7	6	11.3
Total		144	47.2	161	52.8
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	74.623(a)	2	**.000**		
Likelihood Ratio	80.931	2	.000		
Linear-by-Linear Association	74.251	1	.000		
No. of Valid Cases	305				

a 0 cells (.0%) have expected count less than 5 The minimum expected count is 25.02.

Table 3 allows us to make the following judgements:

– the majority of the young people (46.55%) appreciated that when there is no more love in the couple, it is better for the partners to divorce, even when they have children;

– the statistical evaluation of the answers to this item, by square-hi (level of significance $p = 0.000 < \alpha = 0.05$; number of liberty degrees = 2), shows a significant difference between genders in terms of their opinion regarding parents' cohabitation when they do not love each other any more;

– out of the 53 subjects totally agreeing that, for the sake of the child, the parents must stay together, even if they are no more in love, 88.7% are males and only 11.3% are females;

– out of the 144 males that responded, the share of those who strongly agree is bigger (32.63%) than the ones who totally disagree with this alternative (22.91%);

– out of the 161 females that responded, the share of those who strongly agree is much smaller (0.37%) than the ones who totally disagree with this alternative (67.7%).

Disagreement with divorce when there is no more love, even when the couple has children, is about 3.3 times lower among boys (23.2% *versus* 76.8% among girls).

Therefore, we can affirm that the girls in the studied sample tend, to a greater extent than the boys, to give up a marriage when affection is missing, even when children are involved.

Table 4

Degree of agreement regarding the divorce as a solution to get out from marriage failure, depending on the young people's gender

The divorce is a solution to get out from marriage failure		Gender			
		Male		Female	
		Frequency	%	Frequency	%
Disagree		46	63.0	27	37.0
Partially agree		*72*	*48.0*	*78*	*52.0*
Strongly agree		26	**31.7**	56	**68.3**
Total		144	47.2	161	52.8
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	15.261(a)	2	**.000**		
Likelihood Ratio	15.529	2	.000		
Linear-by-Linear Association	15.198	1	.000		
No. of Valid Cases	305				

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 34.47.

Further, we are going to comment the data presented in Table 4:

– the majority of the young people (49.18%) partially agree with the idea that divorce is a solution to get out from marriage failure;

– the statistic evaluation of the responses in terms of square-"hi" in Table 4 (level of significance $p = 0.000<0.05$; number of liberty degrees = 2) shows significant differences.

Thus, out of the total number of young people agreeing, 68.3% are girls and only 31.7% are boys;

– out of the total of 144 who responded, the share of those who strongly agree is smaller (31.7%) than those who disagree (63%);

– out of the total females who responded, the share of those who strongly agree is bigger (68.3%) than those who totally disagree (37%).

The disagreement as to divorce being a solution to get out from marriage failure, is about 1.7 times bigger with males than females (63% *versus* 37%). **So, girls tend, to a greater extent, to think divorce is a solution for a failure in marriage.**

Table 5

Degree of agreement regarding the statement that the divorced are marginalized, depending on the young people's gender

The divorced are marginalized		Gender			
		Male		Female	
		Frequency	%	Frequency	%
Disagree		102	45 5	122	54 5
Partially agree		38	53 5	33	46 5
Strongly agree		4	40 0	6	60 0
Total		144	47 2	161	52 8
Chi-Square Tests	Value	df	Asymp Sig (2-sided)		
Pearson Chi-Square	1 595(a)	2	**.450**		
Likelihood Ratio	1 595	2	450		
Linear-by-Linear Association	440	1	507		
N of Valid Cases	305				

a 1 cells (16 7%) have expected count less than 5 The minimum expected count is 4 72

The test square-"hi", level of significance p = 0.450 > 0.05; number of liberty degrees = 2, shows there are no significant differences between genders, regarding the opinion that the divorced are marginalized. The distributions are homogeneous, both boys and girls appreciating that the divorced persons are not marginalized Out of the total of 124 young people who disagreed, 45.5% are males and 54 5% are females (Table 5).

Table 6

Young people's opinion on the disagreement regarding the divorce option related to financial support, depending on the young people s gender

For financial comfort it is preferable not to take the divorce option		Gender			
		Male		Female	
		Frequency	%	Frequency	%
Disagree		*76*	*40 6*	*111*	*59 4*
Partially agree		51	54 3	43	45 ,7
Strongly agree		17	**70.8**	7	**29.2**
Total		144	47 2	161	52 8
Chi-Square Tests	Value	df	Asymp Sig (2-sided)		
Pearson Chi-Square	10 483(a)	2	**.005**		
Likelihood Ratio	10 620	2	005		
Linear-by-Linear Association	10 410	1	001		
N of Valid Cases	305				

a 0 cells (0%) have expected count less than 5 The minimum expected count is 11 33

Watching Table 6, one can see that the majority of the young people (61.31%) appreciated that when a marriage failed, divorce is a good option, though it may be followed by a decrease in funds.

The statistic evaluation of the responses in terms of square-"hi" (level of significance p = 0.000<0.05; number of liberty degrees = 2) shows significant differences between genders regarding the appreciation that for the financial comfort, the divorce is not an option:

– out of the total of 187 subjects totally agreeing, 70.8% are females and only 29.2% are males;

– out of the total of 144 males who responded, the share of those who strongly agree is smaller (11.8%) than those who disagree (52.77%);

– out of the total of 161 females that responded, the share of those who strongly agree is smaller (4.34%) than those who totally disagree (68.94%).

Disagreement to the opinion that for the financial comfort divorce is not a solution, is about 1.46 times lower among boys than among girls (40.6% *versus* 59.4%). **So, we can affirm that the girls in the studied sample tend, to a greater extent than boys, to give up a marriage, although this may lead to a financial discomfort.**

Table 7

Degree of agreement on considering the divorce as a chance for finding a compatible partner, depending on the young people's gender

The divorce may give the chance to find a compatible partner	Gender			
	Male		Female	
	Frequency	%	Frequency	%
Disagree	29	61.7	18	38.3
Partially agree	73	52.1	67	47.9
Strongly agree	42	**35.6**	76	**64.4**
Total	144	47.2	161	52.8

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.717(a)	2	**.003**
Likelihood Ratio	11.845	2	.003
Linear-by-Linear Association	11.344	1	.001
N of Valid Cases	305		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 22.19.

Distributions in Table 7 allow us to make the following observations:

– the square-"hi" test (level of significance p = 0.03<0.05; number of liberty degrees = 2) shows significant differences between genders regarding the appreciation that the divorce may give a chance to find a compatible partner;

– out of the total of 188 young people totally agreeing. 64.4% are females and only 35.6% are males;

– out of the total of 144 males who responded, the share of those who strongly agree is bigger (29.16%) than those who disagree (20.13%);

– out of the total of 161 females who responded, the share of those who strongly agree is bigger (47.20%) than those who totally disagree (11.18%).

The number of males who disagree that the divorce may give a chance to find a compatible partner, is about 1.5 times bigger than the number of girls (61.7% *versus* 38.3%). **So, we can affirm that the girls in the studied sample tend, to a greater extent than the boys, to take the chance to divorce, in order to find a compatible partner.**

Tablel 8

Degree of agreement with the fact that the divorce laws must be alleviated, depending on the young people's gender

The divorce laws must be alleviated		Gender			
		Male		Female	
		Frequency	%	Frequency	%
Disagree		29	50.9	28	49.1
Partially agree		73	50.3	72	49.7
Strongly agree		42	40.8	61	59.2
Total		144	47.2	161	52.8
Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	2.590(a)	2	.274		
Likelihood Ratio	2.601	2	.272		
Linear-by-Linear Association	1.986	1	.159		
N of Valid Cases	305				

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 26.91.

A correlation between the subjects' gender and opinion, regarding divorce laws alleviation is represented in Table 8. The statistic evaluation of the responses in terms of square-"hi" (level of significance $p = 0.274 > 0.05$; number of liberty degrees = 2) shows there are no significant differences between boys' and girls' attitude regarding this aspect. **Both boys and girls tend to appreciate that the divorce laws should be alleviated.**

3. CONCLUSIONS

As we can see, a marriage setup based on psychological comfort and sexual satisfaction to a larger extent than based on having children, has generated a change in the mentality regarding divorce. The young people subjects of the study do not have an "economic-type" opinion about the divorce, that is in terms of costs and benefits. We can affirm that personal accomplishment, satisfaction of moral, spiritual, affective needs are considered as important factors for marriage success. We must not forget we deal here with opinions of young unmarried people regarding divorce as a nonexperienced situation. The preferences of the partners to the marriage, despite a relative stability in time, differ according to age and are influenced by the presence or absence of the children and, especially, by economic factors. Practically, in Romania, spouses are more often discouraged to take the

divorce decision due to economic constraints and shortage of living space rather than due to psychological costs.

Divorce limitation and encouraging is an ambivalent phenomenon, with both negative and positive effects. Beyond its legal aspect, the divorce stigmatizes spouses' life, having as psychological consequences emotional stress, material consequences, such as sharing of goods, usually decreasing the income, and important consequences for children's care and education. Most of the time the children are those the most affected by the divorce. But divorce may have beneficial effects: the disappearance of conflictual situations alleviates children's trauma caused by parent's fights. Legal divorce denial may limit the number of couples intending to divorce for minor reasons, but may worsen the situation of the couples who are really compromised, preventing the formation of possible functional couples. Limitation of divorces does not influence natality increase; on the contrary, in the case of compromised couples, the fertility could be realised by setting up new couples. "The restrictive character of the divorce involves quantitative aspects, marriage stability and, to a lesser extent, natality behaviour" (Mihăilescu, 2000, p. 203).

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UNE DYNAMIQUE SOCIOCULTURELLE EN TRANSITION. SOCIABILITÉ ET DÉ-RITUALISATION

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A socio-cultural dynamics in transition. Sociability and de-ritualization. The present day Romanian society suffers from an increased deepening, socio-cognitive differentiation, whereby "educational castes" register an extremely reduced "communicability" coefficient. An elitist culture separates from a popular one, and a mass culture of a formidable implosive potential is violently promoted by the media, at an unparalleled rhythm and diversity, if one takes into account its precariousness and resonance. The modalities of sociability of a certain community take part significantly in the making of the economic, social, moral, etc., context, even though the active agents do not accomplish their role and function. In its different modalities, sociability suggests "models" to which groups and persons relate to, "models" to be "automatically" propagated, but through equally "cultural" automatisms, *i.e.*, models endowed with meanings, functions and roles.

Durant une période trop courte, Bucarest a accumulé une histoire tourmentée, et la dynamique sociale en est profondément touchée. Les étapes successives caractéristiques de la physionomie de la ville peuvent encore être reconstituées en lignes générales. Leur coordination assure à Bucarest une spécificité propre, fortement marquée par la qualité de « capitale du pays ». Pourtant il ne faut pas perdre de vue que sur le plan national d'ensemble, l'unité du pays ne s'est réalisée qu'en 1918 à peine. C'est ainsi que s'explique le fait que le développement et l'évolution de Bucarest présentent des caractéristiques qui peuvent être retrouvées dans la typologie de l'évolution d'autres villes du pays, sans que cette personnalité soit diminuée.

Ce processus que Bucarest et son milieu environnant traversent, l'intégration de la ville dans un paysage de Sud-Ouest, restent marquants, ce qui n'a pas empêché sa modernisation et la connexion aux influences et coordonnées européennes occidentales. Comme dans le cas d'autres villes du pays, le caractère urbain-rural de l'endroit s'est maintenu sans interruption, même s'il a faibli graduellement en intensité.[1] Nous avons affaire à un habitat de type « bourgade »

[1] Cf. Pop, Mihai., «Căluşarii români la Londra şi realitatea folclorică a Bucureştilor», in *Sociologie românească*, III, 1938, n^os^ 10-12, pp. 561-564. Le « Căluş » dansé à Bucarest, en 1935 montre comment un policier qui était le meilleur danseur de son village natal d'Argeş, se transformait pour quelques jours dans un authentique villageois dans le cœur du village qu'il desservait.

dont les valeurs politiques, culturelles et économiques se sont développées et amplifiées sans cesse. Bucarest a assuré la focalisation des élites nationales de tous les coins du pays et ce dans tous les domaines. Le « Petit Paris » n'a pas été qu'une étiquette moderne, mais a exprimé une condition de fait. Les influences exercées par la culture occidentale ont contribué substantiellement à la formation de la personnalité de notre capitale.[2]

Une transmigration continuelle des élites s'est produite et s'est prolongée durant quelques décennies, malgré les conditions défavorables. Grâce à ce processus, au contact humain direct, « la bourgade » de Bucarest devient une ville moderne, avec une puissante personnalité, aussi bien spécifique qu'européenne.

Ce processus, cette transposition, étaient en plein déroulement quand la deuxième guerre mondiale a entraîné la Roumanie dans le conflit mondial. S'en est suivie la période tragique de la dictature communiste.

Le développement dans lequel Bucarest s'était engagé en 1944 a été un moment fatidique. A partir de ce moment nous pouvons voir les modifications profondes que la ville dans son ensemble (ainsi que dans tout le pays) et sa population ont souffertes. La dynamique sociale interrompt son cours naturel (son développement capitaliste) et arrive à être totalement dirigée par les structures politiques qui ne pouvaient pas assurer leur domination sans le contrôle direct de toutes les catégories sociales.

Dans le cours des événements intervient ainsi une « ingénierie » sociale dont les caractéristiques incluent, autant inacceptable que cela pourrait paraître, un pré-ordre du développement ultérieur politique-social, donc de l'histoire : *la planification.* En cela réside la qualité de « modèle » du processus de construction de la « société socialiste » et de création de « l'homme nouveau ».[3] Le prototype de ce « modèle » existait déjà (URSS), il ne devait qu'être transposé localement, ce qui s'est réalisé.

Dans la recherche entreprise dans une perspective d'anthropologie sociale, il faut tenir compte de toutes ces données appartenant au cadre historique général. En même temps, il est nécessaire de suivre les traits spécifiquement locaux sur la base desquels le processus de transformation devenait efficace et, dans la conception « des cadres », irréversible. Sans une lecture, exhaustive dans la mesure du possible, des réalités concrètes dans lesquelles les facteurs économiques, sociaux, politiques, idéologiques et culturaux s'agençaient inextricablement, une recherche de ce type ne pouvait être conçue. La dynamique sociale a été entreprise de telle

[2] Cf. Bârna, Vlaicu, *Între Capşa şi Corso*. Bucureşti, Ed. Albatros, 1998; Giurescu, Constantin C., *Amintiri*, vol. I, Bucureşti, Ed. Sport-Turism, 1976; Manoilescu, Mihail, *Rostul şi destinul burghezizi româneşti*, Bucureşti, Ed. Cugetarea-Georgescu Delafras, 1942; Morand, Paul, *Bucarest*, Paris, Grasset, 1930; Manning, Olivia, *Trilogia balcanică. Marea şansă.*, Bucureşti, Ed. Univers, 1996; Sebastian, Mihail, *Jurnal, 1935-1944*, Bucureşti, Ed. Humanitas, 1966; Scurtu, Ioan, *Istoria românilor în timpul celor patru regi, 1866-1947*, vol.I-IV, Bucureşti, Ed. Enciclopedică, 2001; *Viaţa cotidiană a românilor în perioada interbelică*, Bucureşti, Ed. RAO, 2001.

[3] Betea, Lavinia, *Psihologie politică. Individ, lider, mulţime în regimul comunist,* Iaşi, Ed. Polirom, 2001. L'auteur entreprend une vraie et documentée radiographie des représentations et des manipulations communistes.

sorte que la manipulation constante et professionnelle de l'éducation, et par cela des mentalités, des attitudes, des comportements a été non seulement soutenue, mais assurée et imposée par l'absolutisation de l'idéologie et par le fait de garantir sa fonctionnalité et son impact par les moyens concrets de l'appareil de parti.

Le processus susmentionné n'a pas été circonscrit à la capitale, mais il a inclus tout le territoire du pays et ses caractéristiques, ses modalités sont devenues une réalité stratégique, susceptible de provoquer des changements profonds et des « renversements de situations ». Dans le langage consacré idéologiquement, ces « renversements de situations» représentaient « la lutte entre le nouveau et l'ancien ». Le syntagme dépassait par son contenu d'autres comme « la lutte de classe », car le registre auquel il était destiné était celui du cognitivisme culturel dans son ensemble. Clifford Geertz parle de la manière dont l'homme/l'individu et la communauté se situent culturellement dans l'existence, l'espace et le temps. Dans cette perspective, le terme de « culture » peut être vu comme la totalité des significations que la communauté attribue à la réalité abstraite et concrète qu'elle assume et exprime.[4] Sans ces stratégies élaborées et toujours perfectibles, ouvertes vers la spécificité locale, l'efficacité de l'effort de changement, de « construction de la nouvelle société socialiste-communiste» aurait été compromise. Le succès devait être assuré dans un continuum de générations totalement « préparées », c'est-à-dire, « endoctrinées ».

Ainsi, l'idéologie s'est substituée brutalement à tout autre système de valeurs, ceux-ci étant invalidés par tous les moyens possibles. La complexité du processus, sommairement décrit ci-dessus, ne pouvait être comprise par la communauté humaine qui le traversait, la population étant attachée de fait dans les conséquences de ce processus. Dans ceci consiste également « le génie » de cette entreprise de dynamique historique. Chaque génération était mise dans la situation de « prendre conscience » les circonstances concrètes, immédiates dans lesquelles elle se trouvait, projetées dans un idéal « d'eschatologie historique ». Le progrès n'était pas celui d'un achèvement humain spirituel, mais celui d'une réalisation de fait : « la société socialiste multilatéralement développée ». Tout effort ou sacrifice demandé à la génération respective devait être assumé en tant qu'étape vers la délivrance totale, l'abolition de toute injustice et ignorance. Le but suivi était l'édification d'un mental collectif soumis à une ' uble commande » : d'une part, une condition d'effort, de misère, de pauvreté et, concomitamment, de l'autre, un engagement utopique dans la réalisation d'un idéal absolu. Ainsi, ni l'individu, ni la communauté ne pouvaient faire un appel significatif aux ressources profondes propres pour s'assurer l'équilibre nécessaire. Toute la dynamiqu sociale s'est ressentie de cette situation, d'autant plus que les interventions se sont perpétuées par la politique sociale dirigée, des modifications étant générées par le nouveau

[4] Geertz, Clifford, *The Interpretation of Culture*, Basic Books, New York, 1973, apud *Dicționar de etnologie și antropologie*, Polirom, Iași, 1999, pp 188-189. 269; *Local Knowledge Further Essays in Interpretive Anthropology*, Basic Books, New York, 1983, apud *Dicționar* . , pp. 188-189.

spécifique constitué. Dans cette perspective peuvent être abordées, la problématique de la sociabilité, et même les formes actuelles, en pleine transformation.

Dans le cas de Bucarest (qui a constitué pour nous l'unique terrain acceptable et possible, étant donnée l'inexistence de moyens financiers), ce processus a été réalisé grâce à quelques éléments caractéristiques : la communication ouverte entre urbanité et ruralité, la faible persistance de certaines localisations de type « artisans », le faubourg, la configuration culturelle-élitaire, les professionnels de l'art et de la culture, le processus de constitution d'une ville ouvrière de type nouveau où prédominent les « immigrants », les nouveaux ouvriers, les quartiers, le méga-habitat, l'hétérogénéité de la population citadine, le nouveau type de banlieue organisée par quartiers et secteurs, la population non intégrée, relativement stable, des tziganes, fluctuante, les groupes des enfants de la rue.

Cette nouvelle physionomie de la ville, en continuelle instabilité, générera les coordonnées sur lesquelles se constitue la sociabilité. Nous l'avons retrouvée sous une multitude de formes, certaines hybrides, d'autres relativement caractéristiques, jusqu'à celles « possiblement » aliénées : les cafés Internet, « les groupes de blocs », mais aussi les coteries de quartier, qui rendent possible le passage vers les formes négatives ou de dissolution, comme les groupes de « sataniques », de « drogués », etc. Une mention à part mérite les formes agressives de la sociabilité, qui sont les bandes de quartier, orientées vers le brigandage masqué (les taxes de « protection »), la prostitution et la vente des drogues, dont la sociabilité se base sur des liens de parenté, de famille ou de clan, mais aussi les groupes d'intérêt familial des nouveaux riches, des capitalistes en carton, qui créent des réseaux d'influence avec des ramifications dans les sphères du pouvoir, une combinaison spéciale de sociabilité et de social, spécifique « à notre jeune démocratie ».

Il s'agit de la déstructuration de la mémoire culturelle, du choc culturel, d'une situation de crise, d'un « d'accident culturel cognitif » qui imposent la reconsidération et la reconstitution pour l'individu et les communautés du sociocognitivisme culturel : système de valeurs, mentalités, attitudes ; systèmes de représentation du facteur projection, de « rendre virtuel le virtuel ».

La combinaison entre le virtuel idéologique et social et « la rencontre avec la culture informationnelle » par l'intermédiaire des médias écrits mais surtout par les médias audiovisuels, a mené au développement, en rapport avec la sociabilité, de chaque valence telle que l'immédiateté, la prise de possession, l'appropriation, la légitimation et l'affichage ostentatoire, à l'auto-génération de modèles et d'identités personnelles et de groupe, de « modèles immédiats », c'est-à-dire, appropriés, efficaces. Ainsi l'applicabilité de la restructuration en rapport avec le contexte culturel, (encore) local est facilitée.

L'apparition et l'intégration toujours plus intense du phénomène de l'Internet étendent ainsi l'espace de co-participation, en renforçant l'interdépendance (l'inter-culturalité) par le coefficient ascendant continu des moyens informationnels. Est-ce que ce sont là des signes positifs ?

La société roumaine, dans son ensemble, se ressent d'une instabilité évidente, dont les conséquences ne sont pas prévisibles. La culture actuelle, avec le nouveau type de communication informationnelle qui la caractérise, ne peut pas « assurer » une homogénéité, soit-elle relative, des mentalités, des attitudes, du comportement des différentes catégories de la population. On pourrait dire que, tout au contraire, il se produit une différenciation sociocognitive de plus en plus accentuée, des « castes éducationnelles » se constituent, avec un coefficient extrêmement réduit de « communicabilité ». Une culture élitaire se sépare d'une culture populaire, et une culture de masse, d'un redoutable potentiel implosif, est promue à travers tous les médias, à un rythme et une diversité sans précédent, quant à sa précarité et à la résonance qu'elle suscite.

La culture élitaire s'auto-génère dans des groupes restreints, avec une succession de générations toujours plus amplement intégrées dans un contexte universel et universalisant. Son impact dans le processus général d'éducation n'est pas trop puissant, en tout cas, non orientable. Le phénomène n'est pas observé dans toutes ses composantes, ce qui signifie que trop peu de jeunes ont en effet accès à une éducation de qualité ou « élitaire . Il faut encore mentionner ici l'exode continuel des jeunes générations « élitaires », et leur « idéalisation », toujours plus « actuelle ».

La culture populaire est liée aux traditions de certains traits de la société roumaine, comprise comme un tout. L'un de ces traits est l'interpénétration du rural et de l'urbain dans toutes les régions du pays. Durant de longues périodes, la place du « rural » a été, sinon prépondérante, du moins importante dans la structuration d'une physionomie de la culture urbaine et les liaisons avec le « village » se sont maintenues actives et significatives, en termes de conception de vie, pour les communautés comme pour l'individu. Le faubourg[5], ou le quartier, a développé à son tour des modalités culturelles, mais le modèle « rural » n'a pas été occulté pouvant être saisi, même dans ses expressions les plus évidentes, les cérémonies, les rites, les habitudes, et en conséquence, les modalités de sociabilité qu'il contenait.

La culture de masse est un phénomène « nouveau », dont les coordonnées ne sont pas immuables mais s'inscrivent dans le processus de développement impétueux de la communication informationnelle, dans le nivellement, l'uniformisation que ce mode de communication implique et cultive (intrinsèquement). C'est un fait maintenant connu que la succession des générations se produit beaucoup plus rapidement, dans un temps existentiel et culturel dont les séquences ne tiennent plus compte de l'âge biologique. Simultanément avec le conditionnement (la dépendance) des informations médiatisées et permanentes, en fait omniprésentes, cette succession réduit ses exigences qualitatives et situe l'individu, la communauté, le groupe, etc. dans l'âge commun, unique, d'une « nouvellee enfance » promettant satisfaction et amusement, une sorte de « New Age » d'une époque d'éternité intégrée sans effort et responsabilité.

[5] Marica, George Em., *Psihosociologia mahalalei*, in *Studii sociologice*, Centrul de Studii Transilvane. Fundația Culturală Română, Cluj-Napoca, 1997, pp. 310-364.

Les modalités de sociabilité d'une communauté plus large ou plus restreinte, se ressentent non seulement des conditions générales dans lesquelles se constitue le contexte économique, social, moral, etc., mais participent significativement à sa formation, même si les agents actifs ne se rendent pas compte de la fonction qu'ils ont, qu'ils assument par rapport à tous les autres.

La sociabilité semble se former spontanément, se limiter souvent à des situations locales, trop peu importantes, liées surtout à la vie de famille élargie, de voisinage, de quelques appartenances ou adhésions temporaires, auxquelles on n'accorde pas trop de place et auxquelles on peut renoncer sans problèmes.

La dynamique si rapide du corps social comme un tout entier, favorise cette manière de voir les choses, de les assumer et de les exprimer. Mais comme elles sont à leur tour un « fait culturel », les modalités de sociabilité ne peuvent être ni neutres, ni sans conséquences. Même le coefficient de « non-conscientisation » culturelle cognitive qui semble les définir, est un élément qui prouve sa qualité active dans la position que les individus et les groupes s'assurent en espace et en temps, dans un mode d'être et de proposer ce mode d'une acceptation tacite ou déclarée.

Autrement dit, la sociabilité dans ses différentes modalités arrive à proposer « des modèles » auxquels se rapportent les groupes et les personnes qu'elle propage ensuite « automatiquement », mais par des automatismes qui eux aussi sont « culturels », c'est-à-dire, dotées d'une manière ou d'une autre de significations, de fonctions et de rôles. Elles deviennent « habituelles », ou réflexes sociaux « naturels ». Elles n'ont plus rien en commun avec les anciennes « normes », prescrites et maintenues par les traditions, toujours enrichies, mais non modifiées brutalement par une pédagogie culturelle formative. Elles expriment seulement une capacité d'adaptation et de modification dont les résonances ne peuvent être ni saisies, ni évaluées par des méthodes quantitatives.

Dans la société roumaine, les formes de sociabilité sont extrêmement mobiles, on peut dire même ambiguës. Nous pouvons les voir comme des essais pour trouver et affirmer une identité. Du côté de l'individu, ils sont orientés vers une appartenance au groupe, et du côté des groupes vers l'imposition d'une option quelconque, d'un code ou d'un comportement relativement « consenti ».

Pour les groupes, pour certains d'entre eux, la sociabilité est aussi un moyen d'obtenir quelques avantages, une poulie sociale de contrôle ou de « pouvoir », quelle que soit la manière dont ils sont définis et dans quel but.

Bucarest est un « échantillon » en ce qui concerne non seulement la mobilité et la variété des modalités de sociabilité, mais aussi leur orientation par rapport au corps social entier, a son équilibre. à un code de morale, d'éthique. nécessaires à toute société.

La sociabilité actuelle offre un paysage dominé par des tendances antagonistes : des formes qu'on pourrait nommer « positives », c'est-à-dire bénéfiques au corps social, et des formes « négatives », avec un impact déstructurant ou même destructif.

Un phénomène inquiétant, auquel on n'attache pas l'importance méritée, est celui de la concentration de la sociabilité « négative » chez les jeunes générations. Celles-ci sont, comme nous l'avons déjà mentionné, dans un déroulement rapide, et les institutions existantes semblent ne plus savoir ou pouvoir non pas les contrôler, mais les orienter, les éduquer, les former dans un esprit civique et humain. La recherche de terrain dans la perspective de l'anthropologie sociale nous indique des éléments d'une évidence significative et nullement réjouissants.

Les jeunes, les enfants d'ages de plus en plus bas s'empressent de s'inscrire socialement dans les modalités les plus risquées : les cigarettes, l'alcool, la violence, la précocité de l'expérience sexuelle, l'adhésion à des groupes tels « la clique de quartier », « de bloc » ou « de la cours de l'école », « de parc », etc. S'ensuit l'expérience des drogues, de plus en plus étendue et dangereuse : les consommateurs, les rouliers, les trafiquants, le vol, les formes d'agressivité extrême, le crime.

Toutes ces manifestations sont d'une manière ou d'une autre liées entre elles, et l'identité personnelle et même la personnalité de base de l'enfant, du pré-adolescent, de l'adolescent, est profondément ou irréversiblement affectée.

Ces petits groupes vont entrer dans l'âge adulte avec des frustations permanentes, la plupart des individus étant inaptes à s'intégrer aux « normes » courantes qui leur sont favorables et à la communauté dans laquelle ils évolueront.

Toutes ces données, facilement observables « sur le terrain », mentionnées aussi dans les médias écrits et audiovisuels, sont connues et rencontrées en permanence ou « expérimentées » par les plus nombreux. Un point doit être souligné: ces types de sociabilité, qui font partie de la dynamique socioculturelle de notre société, sont générateurs de modèles et de sous-culture.

La sous-culture assume un rôle toujours plus important, plus étendu dans le milieu humain, sans tenir compte de la place que les diverses catégories occupent sur l'échelle sociale ou en tant que statut matériel ou professionnel.

Les modalités de sociabilité en général et celles avec un caractère négatif en particulier, ont une tendance ou une capacité de « ritualisation », autrement dit, elles se structurent relativement rigoureusement, avec des prescriptions ou un code qui assure l'appartenance de l'individu, sa position dans le groupe, l'identité particulière du groupe, etc. Si ce genre d'éléments sont présents, sont-ils perpétués pour des périodes plus longues ? Ont-ils un potentiel de prolifération « extra-territorial » ? Nous avons suffisamment d'exemples qui semblent confirmer ce type de tendances et celles-là sont toutes, constituantes des quelques structures spécifiques aux sous-cultures. Ces formes de sociabilité sont dans leur milieu, « à leur aise » dans un contexte instable et vulnérable, mais au lieu de n'être qu'atypiques, elles participent à un processus de dégradation générale, qui ne se limite pas qu'à une orientation vers le ludique du corps social ou vers une culture d'accumulation de biens matériaux, de positions sociales. Une sociabilité négative (quoique nous ayons parlé ici des formes présentes chez les générations jeunes) semble se perpétuer à toutes les catégories d'âge, dans des modalités plus subtiles ou plus agressives.

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