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## **OLD-OLDS IN POLAND AND THE COUNTRIES OF THE EUROPEAN UNION –NOWADAYS AND IN THE FUTURE**

### **ABSTRACT**

This paper has been designed to present the changes in the population of very old persons, or the oldest-olds (defined here as individuals aged 80 or over) in Poland and the current member countries of the European Union. In 2050 this share will be over 10% in all the EU countries in 2050 and in Austria and Italy – it will exceed the level of 14%. Progress of the second phase of population aging will be still spatially differentiated. Discrepancy will also keep up between the sexes – in the year 2050 the share of the oldest-olds will be higher by 3.5-5 percentage points in female than male populations. Another 25-years-lasting trend will continue – increase in the percentage of persons over 85 years of age among the old-olds. Growing chance to survive to the very old age combined with the relatively low level of total fertility of the survivors will result in diminished ratios of potential old-age support. For instance, the number of women aged 45-64 (most common caretakers) falling to persons aged 85 and over will drop about threefold from the present average of 3.5 to 1.2.

Over the oncoming half-century, Poland - as compared with the EU countries – will be characterized by a very low percentage of the oldest-olds, high level of feminization of this population, a relatively low level of its geriatrization and high potential old-age support ratios.

Key-words: population aging, oldest old

## Introduction

When the European Convention assembled again after the holiday break, its Chairman, Valéry Giscard d'Estaing was pleased to state that the representatives of the EU countries did not intend to raise again the problem of a single social policy of the Union. The issue is extremely emotive due to both, uneven levels of economic development, institutional equipment determining the principles of public means distribution and the demographic development.

The present paper will focus on the present and the future differences in the advance of population ageing, in its probably most important from the viewpoint of social policy aspect – percentage of the very old people, i.e. those aged 80 or over. This age threshold, as adopted in the present paper, follows the 'new' tradition in demographic research, although the author is fully aware of the possibility to choose another criterion for discrimination of the oldest-old age<sup>1</sup>. Tradition dating back at least to the early 1970s set the boundary between the 'young-olds' and the 'old-olds' at 75 years of age. Currently, geriatricians and gerontologists put forward well-justified premises which allow adopting the age of 85 as the threshold of the oldest-old age [Baltes, Mayer, 1999]. However, as it has already been mentioned, 'new' demographic tradition (reflected among others in works of the researchers of the most remarkable centre of studies on the advanced ageing at the Medical School of Odense University in Denmark, or the researchers cooperating with the Council of Europe) moves this threshold to the beginning of the ninth decade of life.

Aim of the present paper is to provide an image of the present size and the future evolution of the population in question, with a special focus on the differences between the situations in Poland and the current EU members. The oldest-olds – unlike the broader category of older people – are hardly ever subject to comparisons on the Europe-wide scale (see, e.g.: [Długosz, 2000]). Meanwhile, knowledge of this population has – beside the purely cognitive value – also practical meaning. Advanced age is also associated with increase in the percentage

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<sup>1</sup> This notion refers to the concept of distinguishing the following phases in human life: 1) childhood and early youth, 2) working age, 3) young, 'autonomous', old age and 4) old old age, when a person needs permanent assistance from other persons.

of persons in need of nursing care. German experience shows that for the subpopulation under 60, share of persons who qualify for institutionally-organized nursing care under the regulations of social insurance is only 0.5%. The share grows to 5% in population aged 60-80, and it is as high as 20% among persons aged 80 or over. As a result, the oldest persons constitute as much as 43% of all individuals eligible for such assistance, although they amount to less than 4% of total population [Błądowski, 2002:215]. Therefore it can be presumed that the growth in the oldest-old population, even if their health status is increasingly improving (which is not self-evident), will stimulate demand for public (i.e. provided by the state sector) medical and nursing services which will be probably of serious financial and fiscal consequences. It is now that the specialists in social policy discussing policy on ageing and the elderly stress the necessity to work out and implement a subpolicy on very old persons [Szatur-Jaworska, 2000: 180-182].

Statistics on the EU countries and Poland presented in this work come from the data collected and published by the UN Population Division as *World Population Prospects*, version for year 2000 [UN, 2001]. Due to the growing significance of the very old population, UN population projections published in the recent years provide fairly detailed information on the oldest-olds in the future. Habitual volume of the papers published in the PPR makes it impossible to present all the quoted figures in a tabular form.

## **2. The oldest-olds in the past and at present**

The second half of the twentieth century was a period of a dynamic increase in the number and percentage of the old-old persons in Europe, of a scope unheard-of over the whole history of mankind (see: [Szukalski, 2000a]). Two basic causes of such dynamic changes should be mentioned: 1) curbing mortality over the whole lifespan experienced by individuals who entered the old-old age in this period; 2) generations which reached the threshold of old-old age at that time were also born in a period of high (compared to present) fertility on the continent. As a result, out of the big number of children born between 1870 and 1920 (exceeding the births in previous periods), bigger percentage (in spite of the two disastrous world wars), was

lucky enough to survive their eightieth and subsequent birthdays than in the preceding cohorts.

Most EU countries could observe three-, four-fold increase in number of old-olds between 1950 and 2000 (see Tab.1). The recorded increase was higher in the countries characterized by high mortality at the beginning of the period under analysis and, as a consequence, low life expectancy.

Table 1. The old old (in thous) and its share in total population (%) in EU countries and in Poland, 1950 -2050

Year		Austria	Belgium	Denmark	Finland	France	Greece	Spain	Holland	Ireland	Luxembourg	Germany	Portugal	Sweden	Great Britain	Italy	Poland
1950	N	81	125	52	30	699	78	292	102	44	4	682	83	106	748	510	183
	%	1.17	1.45	1.22	0.75	1.67	1.03	1.04	1.00	1.48	1.35	1.00	0.99	1.51	1.48	1.08	0.74
1960	N	122	169	74	41	914	111	353	158	55	5	1142	107	143	1000	662	217
	%	1.73	1.85	1.62	0.93	2.00	1.33	1.16	1.38	1.94	1.59	1.56	1.21	1.91	1.91	1.32	0.73
1970	N	158	203	101	51	1172	179	528	225	56	6	1520	106	187	1238	986	302
	%	2.12	2.10	2.05	1.11	2.31	2.04	1.56	1.72	1.90	1.77	1.94	1.22	2.33	2.23	1.83	0.92
1980	N	204	268	148	88	1662	226	630	324	63	8	2165	135	265	1553	1239	541
	%	2.70	2.72	2.89	1.84	3.08	2.34	1.68	2.29	1.85	2.20	2.77	1.38	3.19	2.76	2.20	1.52
1990	N	276	349	190	141	2136	307	1161	432	74	11	2987	258	364	2092	1953	765
	%	3.57	3.50	3.70	2.83	3.76	3.02	2.95	2.89	2.11	2.88	3.76	2.61	4.25	3.63	3.44	2.01
2000	N	286	375	214	175	2181	380	1505	511	99	14	2976	299	449	2411	2248	760
	%	3.54	3.66	4.02	3.38	3.68	3.58	3.77	3.22	2.60	3.20	3.63	2.99	5.08	4.06	3.91	1.97
2010	N	399	554	228	238	3160	552	2113	633	120	20	4029	417	506	2860	3228	1192
	%	5.02	5.38	4.24	4.59	5.16	5.22	5.34	3.88	2.86	4.08	4.95	4.14	5.81	4.75	5.72	3.12
2020	N	461	638	257	283	3565	698	2376	742	141	23	5474	486	534	3241	3832	1420
	%	5.96	6.23	4.79	5.48	5.71	6.76	6.21	4.50	3.07	4.21	6.85	4.89	6.23	5.32	7.11	3.76
2030	N	578	745	377	416	4472	753	2692	1065	202	30	5908	561	758	4311	4317	1739
	%	7.77	7.34	7.06	8.18	7.11	7.56	7.39	6.43	4.14	4.96	7.61	5.77	9.00	7.03	8.50	4.75
2040	N	617	958	426	490	5744	894	3320	1338	273	40	7314	686	842	5130	4880	2601
	%	8.83	9.68	8.14	10.02	9.16	9.60	9.72	8.21	5.31	6.06	9.82	7.28	10.41	8.49	10.34	7.44
2050	N	938	1108	492	497	6443	1060	4181	1609	319	50	9332	824	948	6342	6039	2481
	%	14.54	11.56	9.69	10.59	10.42	11.80	13.37	10.15	5.94	6.99	13.18	9.15	12.19	10.76	14.06	7.43

Therefore, it should be underlined that the population of old-old women grew faster than the population of very old men. As a result, the once relatively

narrow (in the case of Italy, Ireland and Holland) gap between female and male populations of very old persons widened significantly, and the rate of feminization of this universe went up (see Table 2).

In the second half of the twentieth century growth in the oldest-old population was much swifter than increase in total population of the present EU member countries. As a consequence, share of the oldest-olds in total population grew (see Table 1). In 1950, it oscillated around 1 percentage point, adopting significantly higher values only in Ireland, Belgium, France and Sweden. At present, the fraction of the oldest-olds amounts to 3-4% of total population, with two countries standing distinctly apart – Ireland, where very old people constitute only 2.6% of population and Sweden, where the discussed rate is 5.1%. Simultaneously, the difference between the percentages of very old people in male and female populations keeps up which is an effect of different sizes of the two subpopulations. The currently observed differences resemble those recorded in 1950 in the countries with the highest mortality levels. This means that the share of the oldest females is two-, three- times higher than that of the oldest males. Only Greece, Portugal, Ireland and Spain have slightly more advantageous situation in this field. It is partly an effect of the fact that it was only in the recent three-four decades that major progress was made in these countries in curbing mortality and partly due to a small, as compared to other European countries, difference between male and female mortalities.

Now attention should be focused on the different levels of advance of the double ageing process<sup>1</sup>. Differences occurring in the past as well as those observed nowadays should be attributed to the long-range trends in mortality and reproduction. Only in the case of Germany, Ireland and Luxembourg – it is migration that has been of a certain importance. Countries, whose population experienced decrease in mortality long time ago (France, Great Britain, Sweden and Holland), or whose populations were the first to use birth control, (France, Belgium) were characterized by a high share of the very old persons as early as the

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<sup>1</sup> Literature on the subject uses the notion of a double population ageing: the first phase of the process is characterized by an increase in the old population (60+, or 65+ years of age), share of very old individuals among the elderly changes the structure of this population.

beginning of the 1950s. However with time, the structure became uniform which was mainly related to the fact that the very countries which enjoyed the highest fertility in the first decades of the 20<sup>th</sup> century experienced the lowest reproduction rate in the last decades of the same century.

Also historical events affected the size, percentage and structure of the oldest-old population. Principally – two world wars, which resulted in, firstly – diminished pace of the very old population growth. It was a postponed effect of a decrease in births during World War I. Secondly, population losses related to military operations were of big importance, certainly stimulating increase in the feminization rates among the oldest population.

Poland, where the number of the oldest-old population grew by 315% between the years 1950 and 2000, is characterized by one of the highest indicators (after Finland and Holland) informing of the growth rate of the oldest-old population (detailed data for Poland can be found in [Szukalski, 2000b, 2001]). Nevertheless, owing to the high increase in population over the post-war period, the percentage of the very old persons is still the lowest among the set of countries under discussion. The gap between Poland and the EU countries has widened – both, in the absolute numbers and the relative terms. The process was most intensive in the fifty-year period under analysis. In the year 1950, a similar level of structure indicator was observed in Finland while in the other countries the share was higher by at least one-third, reaching the double value in extreme cases. Nowadays, fractions of the oldest-olds have grown by  $\frac{3}{4}$  in most of the EU countries, two-and –a-half times at maximum. Hence, having the European Union as a benchmark, Poland is a country of a relatively less advanced population ageing; the statement also refers to the second phase of the process, which is an effect of a disadvantageous evolution in mortality in the years 1960-1992 and the relatively high fertility as well.

### **The oldest-olds in the future**

The UN-prepared and published population projection (in its most probable

version) allows following the changes and the percentage of the very old persons over the oncoming half-century. Analysis of these data should also take into account the possible errors coming from two sources: false assumptions on the future mortality and fertility. It is decidedly easier to project changes in mortality; hence the number of the very old persons can be presumed as fairly reliable (all the persons who will have reached the threshold of 80 years of age or will have lived through it by the year 2050 are living at present). However, the changes in the share of the very old persons are not as much dependable, because the future trends in procreation cannot be foreseen (birth number, difficult to project, has an effect on the proportions).

Dynamic increase in the size of very old population can be expected in all the EU countries. The number of very old persons will double in almost all the EU countries (Table 1). In 2050, the number of very old population will exceed 6m in Italy, France and Great Britain and 9m in Germany. These figures are big enough to raise doubts on the possibility to adequately secure the needs of the oldest population. The necessity to consider the problem becomes even more explicit in the light of the forecasted percentages of the very old persons (Table 1). Instead of the present 3%-4%, shares of 6%-15% can be presumed, with a dominant situation of the very old constituting 10-12% of total population.

To a greater extent, the scope of the projected evolution will be determined by the size of individual generations - world wars caused the negligible population increase at the turn of the 20th century as well as the third decade of the century, while the post-war baby boom encouraged the expected swift increase in the number of very old population in the 2030s.

The oncoming half-century is to be a period of a faster increase in the numbers of old males than females (Table 2). As a result, the indicators of feminization should be slightly improved. However, the change will be not big enough to influence the fact that the second phase of ageing process will be much more advanced in female than male populations, as the rate will be only 7-8% among men and as high as 13%-14% among women. The records in this field will be reported in the countries of a long-standing very low fertility – Austria, Italy,

Table 2. Feminization rates of the old-old population in the EU countries and in Poland, 1950-2050 (females per 1,000 males)

Country	Year										
	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Austria	1531	1772	2180	2440	2493	2530	2209	1839	1693	1619	1560
Belgium	1500	1600	1756	2152	2355	2318	2038	1895	1699	1621	1596
Denmark	1260	1176	1428	1846	2064	2014	1948	1782	1643	1679	1631
Finland	2000	2153	2400	2520	2615	2733	2338	2021	1773	1816	1823
France	1936	2056	2457	2405	2223	2207	2075	1986	1790	1810	1804
Greece	1437	1312	1594	1483	1425	1467	1525	1591	1596	1591	1592
Spain	2173	1801	1854	1889	1931	1986	1889	1895	1814	1763	1723
Holland	1217	1194	1343	1817	2248	2275	2102	1879	1691	1698	1644
Ireland	1200	1291	1275	1625	1777	1511	1951	1857	1753	1775	1823
Luxembourg	1000	1500	2000	2500	2666	2500	2800	2000	1727	1785	1823
Germany	1409	1455	1889	2389	2572	2875	2388	1884	1782	1641	1565
Portugal	2074	2057	2212	2000	1965	1960	2159	2344	2280	2156	2007
Sweden	1304	1269	1460	1760	1866	1848	1837	1733	1583	1603	1564
Great Britain	1770	1979	2419	2654	2289	2155	1904	1766	1671	1662	1597
Italy	1318	1281	1643	2014	1986	2062	2004	1947	1853	1796	1727
Poland	1815	1880	2020	2360	2269	2318	2408	2517	2399	2216	2149

Compared with the present EU member countries, Poland will be still characterized by a low share of the oldest persons over the forthcoming five decades. However, the indicators in two other countries (Ireland, Luxembourg) will be even lower at the end of the analyzed period. Like in the case of other countries, dynamic increases in the number and percentage of the oldest population are expected after the year 2030, as a result of ageing of the post-war baby boom generation. In the case of our country, a decline in feminization rate is also forecast; however it will come after a period of an increased value of the indicator and its level will be much higher in 2050 than it is now. Nevertheless, even this 7.5% share of the oldest old – although very low, against the benchmark of other countries – will necessitate employing different social and health policies.

## Potential caretakers for the oldest persons

Within the very old population, a process can be observed of a growing share of individuals defined as the oldest old by the strictest criterion – the ones aged 85 or over. These persons constitute, as a rule, 45%-50% of the total very old population. In the year 2050, the share will oscillate (also in Poland) around 55% (up to 62% in female inhabitants of France, Belgium and Finland). In all, persons aged 85 and over will constitute, as a rule, 5% -7% of population. Therefore, it can be suspected that – in spite of the improved health status and physical fitness of the population in question – the number of persons in need of permanent care provided by formal and informal caretakers will grow.

Attempts to define the ability to satisfy for the caring and nursing needs of the very old persons by the members of their families found in the literature on the subject refer to ratios of the existent dependency and the potential support<sup>1</sup>. At the present stage the author would also like to refer to a measure defining the correlation between the number of typical carers of the oldest old and the size of this population. However, this does not mean that an assumption is made here that the old age as such creates a necessity to receive assistance. Thus, many oldest-olds are autonomous persons. However, it can be presumed that passing the threshold of the oldest age strongly increases the need to seek assistance from the next of kin and closest friends. Seeing the inability to unequivocally define the future percentage of persons in need of such help, it is convenient to compare the number of the potential principal caretakers to the number of all persons potentially in need of support.

Data from surveys conducted within our cultural environment show that the typical carers of the oldest old are their sons/daughters [Szukalski, 2002]. Therefore, our ratio of old-age support is defined as correlation between the numbers of females aged 45-64 to the number of the oldest old. Further discussion

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<sup>1</sup> The only difference between the indicators lies in the way they are calculated – in the case when the potential carers are in the denominator and individuals in need of support – in the numerator, the obtained result is referred to as a dependency ratio. When the counted ratio is reversed, the obtained result is the potential old age support ratio. Dominating trend of political correctness which employs an optimistic, official version of the future encourages international organizations to use the notion of potential old-age support ratio rather than the ratio of potential old age dependency in their documents.

will concentrate on the mentioned ratio in the EU countries and in Poland over the oncoming half-century, as viewed by the UN population projection (see Table 3).

Table 3. Potential old-age support ratios (ratio of females aged 45-64 to persons aged 80 and over) for Poland and EU countries 2000-2050

Country	Year					
	2000	2010	2020	2030	2040	2050
Austria	3.41	2.84	2.69	1.84	1.48	0.88
Belgium	3.28	2.62	2.3	1.78	1.31	1.07
Denmark	3.22	3.29	2.97	1.82	1.48	1.32
Finland	3.97	3.24	2.43	1.54	1.3	1.18
France	3.2	2.66	2.36	1.77	1.29	1.12
Greece	3.44	2.6	2.24	2.06	1.46	1.01
Spain	3.03	2.55	2.59	2.24	1.44	0.89
Netherlands	3.79	3.71	3.3	2.04	1.5	1.26
Ireland	4.01	4.13	3.88	3.13	2.33	1.83
Luxemburg	3.79	3.2	3.13	2.37	1.9	1.72
Germany	3.62	2.88	2.23	1.77	1.3	0.95
Portugal	4.1	3.24	3.07	2.67	1.84	1.33
Sweden	2.49	2.35	2.21	1.44	1.29	1.04
United Kingdom	2.93	2.89	2.67	1.82	1.47	1.16
Italy	3.3	2.51	2.7	1.81	1.19	0.88
Poland	5.12	4.64	3.64	3.15	2.11	1.69

Over the upcoming half-century, a continuous decrease in the potential oldest-old-age support ratio is expected. It will be particularly dynamic in the 2030s and 2040s due to the simultaneous swift increase in the oldest population and entering the age of a typical carer by the female cohorts of the 1970s, 1980s and the 1990, which was a period of baby bust in Europe. As a result, instead of the present 3-4 potential carers, in 2050 only a little more than one supporting person will fall to a very old individual. The ratio will adopt lower values in Italy, Austria, Spain and Germany, while in Sweden, Belgium and Greece it will slightly exceed one. This means that over the forthcoming decades, the burden on the oldest-olds' family members should be expected to grow, accompanied by the increased caregiving burden, i.e. the feeling of psychical and economic overloading with the necessity to

provide care to the related oldest-olds, and as a consequence – probably the increased demands addressed to public institutions.

It should be clearly stressed that the presented evolution of the indicator does not automatically mean that the volume of the family support will be reduced to about one-third of the present value – it should be remembered that the oldest-olds enjoy increasingly better health and that the decisive majority of the oldest persons' families fulfill their caretaking duties and they plan to do so in the future.

Against the benchmark of the EU countries, the evolution of the ratio of potential old-age support in Poland is advantageous, as we will belong, beside Ireland and Luxembourg, to the countries characterized by the highest ratios. This is primarily an effect of a relatively high fertility in the 1970s and the 1980s and hence having a big number of women of caretaking age as well as a relatively low degree of advance of the second phase of ageing. However, the fact deserves attention that in the years 2000-2050 the discussed indicator is expected to drop as low as one-third of its initial value, which unequivocally indicates the scale of the future increase in burden on the potential carers.

## **Conclusions**

Data presented in the paper unequivocally indicate the future increase in number and share of the oldest-olds. Scale of this growth depends on individual attributes of demographic processes – mainly in the scopes of childbearing and mortality, but also union formation and migration – within the areas of individual countries with differentiated provision of institutionalized care. Differences in demographic history and processes result in continued differentiation in advance of the second phase of population ageing in the territories of the present EU member countries. This differentiation – measured by the correlation between the maximum and the minimum shares of the very old population will be higher in 2050 than it was in 1950 or 2000, and the advance of the second stage of population ageing in the countries of Southern Europe in the 21<sup>st</sup> century will be of a size which will have an effect on almost every sphere of public private lives.

Between the years 1950 and 2050, the number of the very old persons in the EU countries is projected to grow over tenfold, and the share of this population will grow in a similar way. Compared to the present situation, in fifty years' time, the number of the very old will have tripled and their share in the total will be three-and-a-half times higher. This indicates the scale of problems facing the future policy makers and those responsible for implementing the policy on the broadly-understood public health and social policy. The task is even more difficult as the forecasted increase in population of the extremely olds (90-, 100-year-olds), i.e. the persons whose health status and fitness are difficult to predict, compels policy makers to seek solutions in a 'terra incognita', taking into account the hitherto scarce occurrence of individuals at that age (e.g. the problems connected with the necessity to provide health services at patients' homes, common occurrence of Alzheimer's Disease, which affects one in four, five persons over 85 years of age<sup>1</sup>).

Poland will also experience an evolution in size and percentage of the very old population similar to that in the EU countries. Hitherto political and economic conditions as well as the long-lasting influence of demographic factor on population processes will cause that in comparison to the countries – current EU members as well as those which are to join the EU in 2004 – share of the very old persons in Poland's total population will be relatively low. However, this does not mean that such a low share allows neglecting construction of the concrete legislative-organizational tasks aimed at providing for various needs expressed by the population in question.

Pertinence of a significant differentiation in advance of the second phase of population ageing will be one of the key reasons why all the Euro-enthusiasts' discussion on single European welfare, social or tax policies cannot be successful. Countries in a relatively better position – assessed increasingly more often by the demographic criteria (e.g. [Galop Ameryki ..., 2002]) – which could do with lower financial outlays on indispensable social needs, will not be ready to contribute to the

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<sup>1</sup> Statistics in this field are alarming – e.g. the US statistics show that for the male population, the percentage of Alzheimer patients grows from 5.6% of population at the age of 80 to 35.6% at the age 95. In the female population the respective figures are 7.1% - 41.5%, respectively (see: Dunkle R., Roberts B., Haug M., *The oldest old in everyday life. Self perception, coping with change, and stress*, Springer, New York 2001, p. 10).

common coffer more than they might receive from it.

It should be also taken into account that the figures presented in this paper are probably underestimated. Experience of the several recent years shows (e.g. comparison of several subsequent UN projections), that assumptions on the future mortality as a rule underappreciate the progress in medicine and the assumptions on childbearing overrate the actual tendency to have children. In effect, in the future we will have to face a situation when – compared to the discussed projection - more numerous throngs of the very old people will coexist with the less numerous groups of young people. Thus to some extent, it will add to the number of very old people and – to a still greater extent – it will boost their share in total population. Therefore the current trends should be monitored on a permanent basis in the scope of health status and mortality of the old and old-old persons in order to prevent a situation when the symptoms indicating actual advance of the second phase of population ageing come unnoticed. It should be expected that in the nearest thirty years, the threshold of advanced population ageing (of an unknown value) will be trespassed between the natural population ageing (being a result of evolution in mortality) and a pathological state (a result of a rapid change in age structure due to childbearing evolution), which will cause various consequences on unprecedented scale.

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