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## THE EFFECT OF CHANGES IN PERCEPTION OF TIME ON DEMOGRAPHIC PROCESSES

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The paper first analyses the new changes of demographic processes that have taken place in the past decades, next a point of consideration, namely changes in the perception of time, is presented with the help of which one may get closer to an explanation of this social phenomenon threatening the future of industrially developed countries. The present paper studies what effects are produced by the difference in the perception of time on the number of births and on the struggle for extending life, and, finally, how this difference influences the shape of the population pyramid and the future of the entire society. After having presented the newest research results it is worth calling attention to the fact that the consideration of time as finite has acquired a ‘dominant’ position in the majority of industrially developed countries, the expression used by T. Kuhn in his work on the change of paradigm. This worldview primarily based on rationality has had a significant role in that the number of births declined in these countries, for as D.A. Coleman put it in his keynote speech at the European Congress on Demography in 1998, ‘it is not so obvious why rational and educated people should have children’. Research results dealing with this issue show that as a result of pushing sacral considerations into the background the stability of marriages (and partnerships) decreases and the number of children also declines. For people accepting and following a finite perception of time death will be more terrible. This fear of death is a strong incentive for pushing the limits of narrowed time as far as possible. This is why the struggle for lengthening life has such an important role in scientific research, in medical practice as well as in the life of modern people. Medical science tries to meet this strong social expectation, which, besides several other factors, contributes to the growth of life expectancy at birth and, as a result, the number of births is declining. The consequences of the change of paradigm in perceiving time have modified the shape of the population pyramid: its upper part has become ‘stronger’, the lower part has been significantly

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‘weakened’, and its long-term stability has been continuously weakening. And if these efforts become general, this threatens the future of the entire society.

**Keywords:** demography, sacrality, perception of time, life extending, birth rate, society, future

**Auswirkungen der veränderten Zeitvorstellung auf Bevölkerungsprozesse:** In unserer Studie stellen wir nach der Analyse der in den vergangenen Jahrzehnten erfolgten Veränderungen in den Bevölkerungsprozessen ein Kriterium vor – die veränderte Zeitvorstellung –, mit dessen Hilfe wir uns einer Erklärung dieser gesellschaftlichen Erscheinung – die eine Bedrohung für die Zukunft der Industrieländer darstellt – annähern können. In unserer Studie untersuchen wir, welche Auswirkungen Unterschiede in der Zeitvorstellung auf die Zahl der Geburten und auf den Kampf für eine Lebensverlängerung haben sowie die Frage, wie diese Unterschiede die Form der Alterspyramide und die Zukunft der gesamten Gesellschaft beeinflussen. In den meisten Industrieländern hat die Vorstellung von der Endlichkeit der Zeit eine – wie es T. Kuhn in seinem Werk über den Paradigmenwechsel ausdrückt – „dominante“, „beherrschende“ Position erlangt. Diese Art der Weltanschauung ist von großer Bedeutung dafür, ob in den betreffenden Ländern die Zahl der Geburten sinkt, denn, wie es D.A. Coleman im Hauptreferat des europäischen Demographie-Kongresses 1998 formulierte, „es ist nicht so offensichtlich, warum rationale, gebildete Menschen eigentlich ein Kind bekommen sollen“. Die Ergebnisse von Untersuchungen zu dieser Frage zeigen, dass, wenn religiöse Gesichtspunkte in den Hintergrund gedrängt werden, die Stabilität von Ehen (Paarbeziehungen) und auch die Zahl der Kinder sinkt. Für Menschen, die von der Endlichkeit der Zeit ausgehen und sich entsprechend verhalten, ist der Tod beängstigender als für andere. Diese Todesfurcht kann ein überaus starker Anreiz sein, die Grenzen der reduzierten Zeitspanne möglichst weit auszudehnen. Daher spielt in der wissenschaftlichen Forschung, in der medizinischen Praxis und auch im Leben des modernen Menschen der Kampf um eine Lebensverlängerung eine so große Rolle. Dieser ausgeprägten gesellschaftlichen Erwartung versucht die Medizin zu entsprechen, was – neben mehreren weiteren Faktoren – dazu beiträgt, dass die Lebenserwartung bei der Geburt steigt, die Zahl der Geburten jedoch als Folge hiervon sinkt. Die Folgen des bezüglich der Zeitvorstellung erfolgten Paradigmenwechsels haben die Form der Alterspyramide verändert: der obere Teil wurde breiter, der untere Teil wesentlich schmaler, und die langfristige Stabilität nimmt fortlaufend ab. Wenn sich hieraus allgemeine Tendenzen entwickeln, dann kann das die Zukunft der gesamten Gesellschaft bedrohen.

**Schlüsselbegriffe:** Demographie, Religiosität, Zeitvorstellung, Lebensverlängerung, Geburtenzahl, Gesellschaft, Zukunft

## 1. New trends in the demographic processes

In the literature on population issues the new social phenomenon observable in the industrially developed countries, unprecedented in the known history of humanity, is called second demographic transition. Its major characteristics are the low number of children and the average life expectancy at birth that has grown to 80 to 85 years within a relatively short period of time. As a result the proportion of those above 65 may increase from 15 to 35% within a few decades.

The evolving and even more the forecast proportions of age groups endanger the long-term survival of those societies, among others because of the expected disturbances of health care and the pension system. One may read more frequently about the inevitable changes in the domestic and international literature, but no meaningful steps have been taken in these countries simply because a clear and precise 'diagnosis' is missing. Hence it is regarded important to enlarge the considerations of study by new points that may help understand this social phenomenon more profoundly.

As a consequence of the second demographic transition one may witness the continuous 'stretching' and 'thinning' of the population pyramid. The demographically stable pyramid shape at first, in a transitory period of some decades started to resemble a bell and now an urn with an increasingly thinning base. In addition to its several important effects reshaping the entire society also modifies the distribution of resources among the age-groups. The 'stretching' of the top of the population pyramid and the 'thinning' of its bottom call attention with increasing resoluteness to the fact that the ageing of the population and the decreasing number of births are the consequences of one and the same social phenomenon. Modern societies attempt to mitigate the expected grave consequences of this process that is so far impossible to halt by increasing the number of immigrants. Some experts hold that these issues would be solved by immigration. It can be seen, however, that the large number of immigrants already causes difficult to manage tension in the receiving countries.

The UN Population Division published a collection of papers in 2001, studying the issue whether 'replacement migration' could solve the declining and ageing population of developed countries and the consequent grave problems. The papers outline six different conditions besides a case without immigration, and considering the levels of some proportions important to society as a whole to be kept up, they calculate what extent of immigration would be necessary to realise their upkeep (up to 2025 and 2050 respectively) and how it would affect the number and composition of the population. Calculations have been made in relatively big countries where the number of births is insufficient to keeping the present population. The selected 8 countries were the following: France, Germany, Italy, Japan, South Korea, Russia, Great Britain and Northern Ireland, and the United States. The regions selected were Europe and the European Community.

A detailed presentation of this study cannot be undertaken here, only some of its details and the major findings of the research would be stressed that indicate the nature, weight and forecast worsening of the problems that are essentially valid for the former socialist countries, too. The paper publishes some remarkable data already in its introduction, calling attention to the fact that it is important to deal with these issues seriously at this stage.

According to the United Nations population projections (medium variant), Japan and virtually all the countries of Europe are expected to decrease in population size over the next 50 years. For example, the population of Italy, currently 57 million, is projected to decline to 41 million by 2050. The population of the Russian Federation is expected to decrease from 147 million to 121 million between 2000 and 2050. Similarly, the population of Japan, currently 127 million, is projected to decline to 105 million by 2050.

In addition to the decrease in population size, Japan and the countries of Europe are undergoing a relatively rapid ageing process. In Japan, for example, over the next half century the median age of the population is expected to increase by about eight years, from 41 to 49 years. In addition, the proportion of the Japanese population 65 years or older is expected to increase from its current 17 per cent to 32 per cent. Similarly, in Italy the median age of the population is expected to increase from 41 years to 53 years, and the proportion of the population 65 years or older is projected to rise from 18 to 35 per cent.

(Population Division 2001, 1)

The UN paper has been seeking an answer to the question whether immigration would be a solution to the decline and ageing of the population. In order to answer this question it was calculated what size of immigration would be needed in the countries and regions under survey that would be sufficient to avoid population decline and would counterbalance ageing. The results of the calculations and the population pyramids made on the basis of them can be viewed on the homepage of the UN Population Division, therefore only a few remarkable data and conclusions are presented here.

In the absence of migration, all countries with fertility below replacement level will see their population size start declining at some point of time in the near future, if this is not already the case today. In some countries, the projected declines in population size during the first half of the twenty-first century are as high as one quarter or one third of the entire population of the country.

(Population Division 2001, 97)

The summary assessment of the results of calculations without immigration stresses among others:

In all countries and regions, the population aged 15–64 years would decline earlier and faster than the total population. For example, while the European Union would see its total population decline by 17 per cent between 2000 and 2050, the population aged 15–64 would decline by 30 per cent.

(Population Division 2001, 22)

Of the study conducted by the UN and its chief findings here only three points are presented that are important to our own survey:

- The decline of the population and ageing as social phenomena that can also be observed in the majority of the developed countries have been ever more threatening challenges.
- According to forecasts for the coming fifty years the current trends warn that these issues should be dealt with far more seriously than done up to now, even if interpretation of the data is made more difficult by a number of uncertainties, and that differences may be experienced between trends of this nature and the real social processes.
- One should carefully consider and prepare for the consequences of the population decline experienced in the developed countries and the population explosion still in progress in the developing countries.

In the following let us see how far the former socialist countries have adopted the ‘demographic pattern’ that following the ‘Western’ model was regarded as the most important aim since the early 90s. It will be presented with the help of some quotations

and data how rapid this adjustment has been in this area, with the analysis of data related to Hungary taken first.

During the past ten years the declining trend of fertility, experienced for a longer period of time, did not only continue but grew in strength. The 126 thousand births in 1990 dropped below the critical 100 thousand in 1998, and the number did not even reach 95 thousand in 1999. This extent of decrease was unexpected in a sense. In fact the number of births of the given period was basically affected by two factors.

The first one is the number of women in reproductive age and their willingness to bear children, in other words the current level of fertility. During the past ten years there have been favourable changes in the number of women in reproductive age, for the larger number of generations born twenty years earlier reached their most fertile age from the mid-90s on. As a result the number of women between the ages of 20 and 29, an age decisive for the number of births, had been continuously increasing and was higher by about 160 thousand at the turn of the millennium than ten years earlier. The growth of their number could have counterbalanced a lesser decline in fertility, or, at least, it could have moderated its speed. This was expected by the forecasts made in the early 1990s, prognosticating a moderate growth of the number of births. This, however, did not happen, because willingness to bear children has dropped to an extent that it has pushed the beneficial effect of increased numbers totally into the background.

(KAMARÁS 2001, 53–54, *my trans.*)<sup>1</sup>

All this is not only suited for the analysis of the current situation but as it can be seen on the Figure made by Ferenc Kamarás may affect even the coming decades. If the large generations in reproductive age would not give birth to their children even at a later stage then a decline faster than the present one can be expected. In that case it is difficult to answer even theoretically to the question what can be done in the interest of halting a further decline of the population.

Similar tendencies may be observed when the data of the other former socialist countries is analysed.

This period brought about fundamental changes in the area of demography, too. In these countries the level of marriages and fertility strongly decreased by 20 to 40% in one decade, and the number of childbirths outside marriage multiplied by a factor of 1.5 to 3.

<sup>1</sup> 'Az elmúlt tíz évben nemcsak folytatódott, hanem fel is erősödött a termékenység hosszabb időszak óta észlelt hanyatló irányzata. Az 1990. évi 126 ezres születésszám 1998-ban a kritikusnak mondott 100 ezer alá esett, 1999-ben pedig már nem érte el a 95 ezret sem. A csökkenés ilyen mértéke bizonyos értelemben váratlan volt. Egy adott időszak születéseinek számát ugyanis alapvetően két tényező befolyásolja. A szülőképes korban lévő nők száma és gyermekvállalási kedvük, vagy más szóval a termékenység aktuális szintje. A szülőképes nők számát tekintve kedvező változások történtek az elmúlt tíz évben, mivel az 1990-es évek közepétől léptek legtermékenyebb korukba a húsz évvel korábban született nagyobb létszámú nemzedékek. Ennek eredményeként a születésszám szempontjából meghatározó 20–29 éves nők létszáma folyamatosan emelkedett és az ezredfordulón is mintegy 160 ezer fővel magasabb, mint tíz évvel korábban. A termékenység kisebb mértékű csökkenését ellensúlyozhatta volna a létszámemelkedés, de legalábbis mérsékelhette volna annak ütemét. Erre számítottak az 1990-es évek elején készült előszámítások is, amelyek az évtized közepétől mérsékelt születésszám-emelkedést prognosztizáltak. Ez azonban nem következett be, mert a szülési kedv olyan mértékben csökkent, hogy teljesen háttérbe szorította a létszámemelkedés jótékony hatását.'

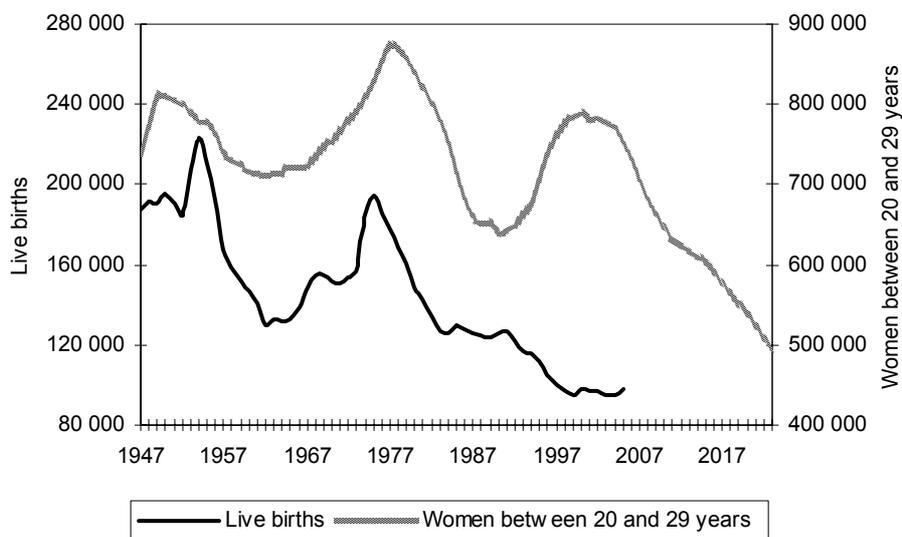


Figure 1

Live births per year (1947–2002) and the number of women between 20–29 years of age (1947–2023)

Meanwhile the average age of people getting married for the first time and delivering the first child started to grow rapidly. Mortality grew in general, and external migration gained impetus. With the exception of Slovakia and Poland population decline has been a general one, in some countries (Estonia, Latvia, Russia, Hungary, Bulgaria and the territory of the former GDR) it has been definitely of significant extent. In most cases emigration as well as the growth of mortality and a fall of fertility played a role.

(TÁRKÁNYI 2002, 48, *my trans.*)<sup>2</sup>

The significance of changes is underlined by the fact that there had been significant differences even in this respect between the ‘Eastern’ and the ‘Western’ countries as late as the 80s.

Their fertility was usually much higher in the late 80s than in the developed European countries. In 1990 only the fertility rate of the territory of the GDR was low (1.5, though it is true that in Slovenia, the republic of Yugoslavia becoming independent a little later it

<sup>2</sup> ‘Demográfiai téren is alapvető változásokat hozott ez az időszak. A házasság és a termékenység szintje erősen, 20–40%-kal csökkent egy évtized alatt ezekben az országokban, és 1,5–3-szorosára nőtt a házasságon kívüli szülések aránya. Közben gyors növekedésnek indult az első házasságkötésnek és az első gyermek megszületésének az átlagos életkora is. A mortalitás általában nőtt, és felélénkült a külső migráció. A népességsökkenés Szlovákia és Lengyelország kivételével általános, egyes országokban (Észtország, Lettország, Oroszország, Magyarország, Bulgária és a volt NDK területe) kifejezetten jelentős mértékű volt. Benne legtöbbször mind a kivándorlás és a halandóság növekedése, mind a termékenység zuhanása szerepet játszott.’

was only 1.46). In the rest of the Soviet-bloc countries it was either around the reproduction level, for instance in Poland (2.05), or it lagged behind only a little, in Hungary for instance by 11% (1.87). At the same time in the majority of the developed European countries the total reproduction rate was much below the reproduction level.

(TÁRKÁNYI 2002, 49, *my trans.*)<sup>3</sup>

The newly emerging rates of fertility show that the former socialist countries have been ‘successful’ emulators of pattern. A paper analysing the European fertility patterns already calls attention to the common features.

The European countries are so-called low fertility countries with the exception of Turkey, Albania and Georgia, in other words women deliver less than 2.1 children during the course of their life. This frequency of birth is unable to substitute for the parental generations. The process of decline took place in Western and Northern Europe between 1965 and 1975, in Southern Europe between 1960 and 1989, and finally, in the 90s in the reform countries of Central and Eastern Europe. Next in Western Europe a stable, low level has set in, in Northern Europe there was a brief period of minor growth, while in Southern Europe and in the reform countries an extremely low level has evolved.

(DORBRITZ 2001, 153, *my trans.*)<sup>4</sup>

The growing popularity of ‘childlessness’ has been playing an increasing role in the decline of the number of births.

Some decades ago desiring children and their delivery was almost taken for granted and people complained if they were childless. The desire, however, has been present for long that there should not be too many children. This desire has, meanwhile, become a wish for childlessness. An average of more than 26 per cent of the 40 year-olds remained childless in West Germany, and this proportion is almost 40 per cent in the really big cities. Only 50 per cent of this age group is married in the big cities, and only 30 per cent of them have children.

(SCHWARZ 2001, 200, *my trans.*)<sup>5</sup>

<sup>3</sup> ‘Termékenységük a 80-as évek végén általában jóval magasabb volt, mint a fejlett európai országokban. 1990-ben csak a volt NDK területének termékenysége volt alacsony (1,50 – igaz Jugoszlávia kevéssel később függetlenedő tagköztársaságában, Szlovéniában is csak 1,46 volt). A szovjet blokk többi országában vagy a reprodukciós szint körül volt – például Lengyelországban (2,05) – vagy csak viszonylag kevéssel maradt el attól, Magyarországon például 11%-kal (1,87). Ugyanekkor a fejlett európai országok többségében a teljes termékenységi arányszám mélyen a reprodukciós szint alatt volt.’

<sup>4</sup> ‘Az európai országok úgynevezett alacsony termékenységű országok Törökország, Albánia és Grúzia kivételével, vagyis a nők életük során kevesebb, mint 2,1 gyermeket hoznak világra. Ez a születésgyakoriság a szülőgenerációk pótlását már nem biztosítja. A visszaesési folyamat Nyugat- és Észak-Európában 1965–1975, Dél-Európában 1960–1989 között, majd végül a 90-es években a közép- és kelet-európai reformországokban ment végbe. Nyugat-Európában ezt követően stabil alacsony színvonal állt be, Észak-Európában rövid ideig tartó kismértékű emelkedés következett, míg Dél-Európában és a reformországokban rendkívül alacsony szint alakult ki.’

<sup>5</sup> ‘A gyermekek utáni vágy és világra hozataluk néhány évtizede még úgyszintén magától értetődő volt, a gyermektelenség panaszra adott okot. Régóta azonban fennáll az a vágy, hogy a gyermekek ne legyenek túl sokan. Ez a vágy időközben növekvő és kívánt gyermektelenséggé alakult át. A nyugat-németországi 40 évesek átlagosan több mint 26%-a gyermektelen maradt, ez az arány az igazán nagy városokban majdnem 40%. A nagyvárosokban ennek a korosztálynak csupán 50%-a házas és 30 százalékuknak van gyermeke.’

The data published in the literature on child poverty warn us that the lower part of the population pyramid would not only be thinner but also ‘weaker’ while the upper part would be continuously becoming ‘stronger’. (It is commonly known that the election system in force in these countries also plays a role in this change of the population pyramid, but in this paper another point is analysed which is assumed to exercise stronger influence on this process.) The introductory sentences of the collection of papers reporting on recent research into the topic offer a concise and gloomy picture of the situation:

A radical deterioration of the financial condition of families with children is one of the most negative social consequences of transformation. Today few would doubt the summary of the UNICEF report made in the early and mid-90s stating that ‘children are the losers of the change of the system’. Several papers describe this negative process, the extent of the relative deterioration of the situation, and analyse the context responsible for it . . . It is also known that the deterioration of children’s situation had begun already before the change of the system, and it is a tendency characterising the developed industrial societies in the long run, too . . . Further on, it is also known that the negative consequences do not affect every family equally. (SPÉDER & MONOSTORI 2001, 7, *my trans.*)<sup>6</sup>

It is true in every former state socialist country that children are in the first place among the groups affected by poverty and the younger a child the greater the risk of poverty. Poverty is more frequent and spreads faster among children than among adults or the aged . . . The negative externalities of child poverty affecting the entire society are well known from literature on psychology, pedagogy and sociology. Bad health status, poor school performance, disturbances in learning, behaviour and adjustment, dropouts from school are adverse indicators from the point of later adjustment in the society. (DARVAS & TAUSZ 2001, 48–49, *my trans.*)<sup>7</sup>

Deterioration that has set in the health status of children and in the financial situation of families with children can be sensed today in the primary schools in the changes set in both in the physical as well as mental state of children, and it further endangers the stability of the population pyramid already weakening rapidly. The expected consequences of demographic processes have been dealt with in detail and profoundly by representatives of several areas already in the 20<sup>th</sup> century. Due to these

<sup>6</sup> ‘A gyermekes családok anyagi helyzetének radikális romlása az átalakulás egyik legnegatívabb társadalmi következménye. Mára már kevesen vonják kétségbe az UNICEF 1990-es évek elején-közepén kelt jelentésének summázatát, amely úgy szólt, hogy a »gyerekek a rendszerváltás vesztesei«. Több tanulmány is leírja e negatív folyamatot, a relatív helyzetromlás mértékét, elemzi az ezekért felelős összefüggéseket. . . . Azt is tudjuk, hogy a gyermekek helyzetének romlása már a rendszerváltás előtt elkezdődött, és a fejlett ipari társadalmakat is hosszú távon jellemző tendencia. . . . Továbbá tudjuk, hogy a negatív következmények nem minden családot érintenek egyformán.’

<sup>7</sup> ‘Minden volt államszocialista országban igaz: a szegénység által érintett csoportok között első helyen a gyermekek találhatók, s minél fiatalabb a gyermek, annál erősebb a szegénység kockázata. A szegénység gyakoribb és gyorsabban terjed a gyermekek, mint általában a felnőttek, illetve az idősek körében . . . A gyermekszegénység egész társadalomra ható negatív externáliái a pszichológiai, pedagógiai és szociológiai szakirodalomból jól ismertek. A rossz egészségi állapot, a gyenge iskolai teljesítmény, a tanulási, magatartási és beilleszkedési zavarok, az iskolai lemorzsolódás a későbbi társadalmi beilleszkedés szempontjából kedvezőtlen előjelek.’

scholarly works we have a growing knowledge about the social phenomenon itself and about its expected consequences, but the deeper causes of the processes have not been explored or are strongly debated.

## 2. The significance of perception of space and time in the life of the society

During the course of the analysis of successive population pyramids arranged in time-wise order, well demonstrating the changes of demographic processes, the significance of a dimension emerges that has been pushed into the background in researches hitherto conducted. This is the 'finite' or 'infinite' perception of space and time determining the conditions of human life. As its relationship to changes of the demographic processes is not taken for granted, I am going to present the importance of this relationship by the analysis of the role of norms shaping our life and of religiosity. Religiosity is regarded here as an outlook pointing beyond the boundaries of the 'finite' (in this case lasting from birth to death).

In his work summarising decades of international research and of his own, Rudolf Andorka in his book entitled *Gyermekszám a fejlett országokban* ('Number of Children in the Developed Countries') draws his final conclusion that it is not the much analysed and presented considerations used almost out of routine (income, school education, place of residence) but social norms that exercise the greatest influence.

Thus the desired number of children is just as much a behavioural norm and value as other rules of behaviour, and is learned during the course of socialisation, by contact with the immediate environment. Naturally, environment in adulthood may modify these norms and values. (ANDORKA 1987, 217, *my trans.*)<sup>8</sup>

László Cseh-Szombathy draws a similar conclusion though in different wording, after his researches into the topic, conducted for several decades:

Mrs Tibor Pongrácz and Edit S. Molnár have shown the role of attitudes as a result of several surveys looking for the reasons for having children. It is beyond doubt on the basis of these researches that a deliberate undertaking of children depends on the attitudes of individuals and groups in our country but this is already the case in all European countries . . . Based on my own researches it is *the general world view and value judgement that are of key importance*. One has to face the fact that having children also means sacrifices: parents have to give up the full satisfaction of several of their needs, they have to face cases of discomfort, their problems will multiply, and there is no guarantee that the trouble taken would be reciprocated by their child or children.

(CSEH-SZOMBATHY 2000, 31, *my trans., italics added*)<sup>9</sup>

<sup>8</sup> 'A kívánatos gyermekszám tehát ugyanolyan viselkedési norma és érték, mint más viselkedési szabályok, és úgy, ahogyan a szocializáció során a közvetlen környezettel való érintkezés folyamán sajátítják el. Természetesen a felnőttkori környezet módosíthatja ezeket a normákat és értékeket.'

<sup>9</sup> 'A gyermekvállalás okainak vizsgálatánál Pongrácz Tiborné és S. Molnár Edit több vizsgálat során mutatta ki az attitűdök szerepét. Vitathatatlan ezen kutatások eredményei alapján, hogy a tudatos gyermekvállalás nálunk, de ma már valamennyi európai országban is az egyének, a csoportok attitűdjeitől füg-

Since Rudolf Andorka's comprehensive work, several new researches have dealt with the relationship between religion and fertility. Some remarkable passages are presented here from two papers summarising results so far achieved of those researches. At first the questions and major findings of LEHRER's paper (2004) are presented. Abundant literature documents that religion has broad effects on the economic and demographic behaviour of individuals and families in the United States, including the choice of spouse, entering into cohabitation or marriage, divorce, fertility, the work of women at home and in the labour market, schooling, wages, and property. Hitherto these aspects have been studied separately and in isolation, using an analytical framework based on Gary Becker's theory of family economy. The paper critically surveys and synthesises theoretical and empirical researches so far done, and presents the ways through which religion affects the behaviour of people.

Religious denomination is put into the focus of the author's approach; it is the specific religious group to which the individual belongs. Religious affiliation is important because it influences the cost and benefit of the various interrelated decisions made by people during the course of life cycles, and also the behaviour related to households. Religion is an important supplementary factor within marriage, influencing several activities jointly done by husband and wife. Religiosity embraces dimensions such as commitment to religion, the strength of religious faith, participation in religious activities individually or as member of a group. Evelyn Lehrer's starting hypothesis is that religiosity influences economic and demographic decisions partly because it strengthens the sense of belonging, and partly because in general it has a positive influence on health and well-being.

The subsequent parts survey the role of religion in economic and demographic decisions. The analysis concentrates on the main religious groups of the United States, such as mainstream Protestants, conservative Protestants, Roman Catholics, Jews and Mormons, and on people not belonging to a religious denomination. Of these only the passage on fertility, closely related to the topic of this study is presented. Some religions offer psychological and social reward to married couples having many children in the form of respect, social status and blessings. The high rate of fertility constantly produced by Mormons in the United States can be interpreted as a rational response to such incentives. Similarly Catholicism also contains strong childbearing-friendly ideologies, enhancing the sense of advantages attached to an additional child. And their teaching prohibits the artificial forms of contraception; it is opposed to abortion and increases the cost of family planning. These norms were expressed by the distinctively high fertility rates up to the 1970s. Recently, however, insistence on the teachings of the Catholic Church has been definitely weakened and family size has decreased. Some aspects of conservative Protestant ideologies are also childbearing-

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gő . . . Saját kutatásaim alapján az általános világnézet és értékítélet az, ami kulcsfontosságú. Őszintén szembe kell nézni azzal a ténnyel, hogy a gyermekvállalás áldozatokkal is jár: a szülőknek számos szükségletük teljes kielégítéséről le kell mondaniuk, kényelmetlenségekkel kell számolniuk, megszorodnak gondjaik, és nincs biztosíték arra nézve, hogy gyermekük, gyermekeik felnőve viszonyozzák a rájuk fordított fáradságot.'

friendly, and the fertility of these groups has been found above that of mainstream Protestants, though only with a margin of difference.

At the other end of the line the non-orthodox Jews present a consistently and unusually low fertility rate. In this case there are no doctrines in the religion itself that would encourage small family size, therefore an explanation has to be looked for elsewhere: in the Jewish community, and in its interrelationships with the broader society. Literature on economics suggests that Jews have been confronted with the higher price of an additional child when making their decision and it was related to the urban way of life and a higher rate of female education. The largest part of what is known about fertility differences by religion is based on papers using information on women's attachment to a religion. Yet the religion of the male partner also plays some role, partly because the opposite influence of a mixed religious marriage on the stability of the relationship also affects fertility. The authors have observed that if the parties do not fit in some important dimensions such as culture or religion, they have the reason to imagine that their relationship is a fragile one. If this is the case then both parties may be inclined to restrain investment into 'consort-specific human capital', the main form of which is having children. This 'marriage stability effect' is one of the causal ways linking both partners' religious affiliation to fertility, and according to which marrying outside one's own religion decreases fertility.

There is another way, too. If the married partners are of different religious denominations they may feel incentives of opposite direction in respect of fertility. The 'bargain effect' deriving from it suggests how the married couple discuss these differences. It may be effective in the same direction as the 'marriage stability effect', or it may exercise an opposite influence, depending on the specific pair of religions involved. For instance, if a Catholic woman marries a Mormon, where theology is more emphatically supporting high fertility, then the bargain effect suggests that the fertility of this Catholic woman would be higher than if she married within her own religious community. The opposite can be expected if she chose an irreligious partner not attached to an ideology preferring high fertility. Research based on statistical data shows that both the marriage stability as well as the bargain effect is operational. For instance, in the case of a married couple of typical features regarding all other variables the total family size is 3.3 children if both of them are Mormon, whereas it is 2.4 to 2.5 children if only the wife is Mormon. In this case the marriage stability as well as bargain effect suggests that mixed marriage has a negative effect on fertility. Whereas if a Protestant woman marries someone outside her religion that situation has no sensible effect on family size. In this case, though it can be expected that marriage outside her own religion would decrease fertility, the bargain effect may exercise a counter force if the husband is Catholic or Mormon. This exposition underlines that it would be necessary to consider the religion of the male partner, too, in fertility studies in the future.

The ultimate conclusion of the paper summarising the results of researches studying the role of religion is the following: The analysis has stressed the usefulness of thinking about religious affiliation in so far as to see how it influences the cost and effect of various interrelated decisions made during the course of the life cycle by

individuals and families. It has also demonstrated that the complementarity of religion within the context of marriage makes it essential to consider the religious denomination of both married parties. Further on it has shown that the interpretation of religious effects within the entire economic and demographic image significantly contributes to the proper understanding of every given detail.

Religious values, though important, presumably play a critical role in shaping demographic behaviour only when the religious authorities have at their disposal rewards and sanctions that encourage the faithful to adjust. This may happen mostly if the Churches are able to build the network of institutions that play a shaping role in the life of their members, and in addition can exercise influence over the civil organisations, too.

The other paper also important to the topic studied and which can be regarded as the continuation of the thoughts expounded above, was written by Kevin MCQUILLAN (2004). In this paper the author has studied primarily the significance of the role of religious institutions. The abundance of experience collected by demographers on religious differences in fertility well illustrates that religious communities sharing a common tradition of the faith may significantly differ in their demographic history. Catholic communities were leading as well as lagging behind in the demographic transition. Regions of France such as Normandy usually regarded as the initiator of decreasing fertility in Europe, is populated mostly by Catholics.

On the other hand, Catholicism is often referred to as a factor in the postponement of fertility decline in places like Québec and Ireland. In the case of Islam religion was associated with higher fertility rate and the slowing of fertility decline in countries like Saudi Arabia, Pakistan and Syria. In contrast to them Islam has not proved to be an obstacle in moving towards low fertility in Indonesia, Egypt and even in Iran. How can it be explained that religious values may play a key role in some places but not in others? Presumably religious values are important when the religious institutions have their possibility to pass on values to their members and to operate mechanisms for the promotion of co-operation and for punishing non-conformism. The institutional influence of religion may be sensed at three levels: in the bigger society, in the community and in the individual's life.

Based on his researches Kevin McQuillan has drawn the conclusion that religious values, though important, presumably play a decisive role in the shaping of demographic transition only if the religious authorities possess the possibility of rewarding and punishing, by which they encourage the faithful to adjust. This happens most easily when the Churches are capable of building a network of religious institutions playing a formative role in the life of members. In addition it is also significant that Churches are capable of influencing civil organisations, too. Such influence does not emerge accidentally. Religious leaders have to mobilise the resources of their Church to promote their plans. This often means co-operation with civic leaders. Sometimes this co-operation is established because the Church is the only institution possessing resources for the implementation of certain tasks in the field of education, healthcare or in serving the poor. At other times, such as the after-effects of Reformation, the political leaders thought that the Churches can render valuable support to

them and in return they were ready to grant broader opportunities to religious leaders in certain spheres of social life. The major lesson of the cases so far discussed is that understanding the role of religion requires attention paid to structures as well as values. This in its turn requires understanding the context of the social and political environment where the religious institutions are embedded.

Finally, the author summarises the results of research so far done as follows. Though several papers have pointed out the significant differences in the demographic behaviour of various religious groups, demographers have been struggling to explain why religion has bigger influence in certain places and none in others. He argued for a broader definition of the ideological influence of religion, for a definition that goes beyond specific rules offering directives in issues like contraception, and should include sexuality and values related to family life. He has also urged demographers to pay attention to the importance of the status of the religious group within the social and economic order of the society. Kevin McQuillan strove in his paper to extend attention to cover the role of religious institutions and religious identity. In his answer given to the central question of the paper, namely when religion influences fertility, he stressed three elements.

First: the religion in question should clearly word behavioural norms that are related to the fertility outcomes. Not every religion does it and some of them that had done so in the past have modified their rules concerning issues like contraception and abortion. Religious norms influencing fertility may contain specific directives on topics like contraception, or may contain more general teachings about gender roles and family life, but the full explanation of religious effects must contain a theory linking these values and norms with the specific forms of demographic behaviour.

Second: a religious group must have possibilities for communicating its teachings to its members and to persuade them to implement those. Though the norms are asserted partly by informal social pressure, in the case of religion a formal organisation is in the position to grant concrete rewards, material as well as symbolic ones to those members who adjust to the teachings, and to punish those who do not. This fact underlines the importance of studying religion and the role of religious institutions in the socio-economic order.

Finally, it is more likely that the demographic choices of the followers of a religious group are influenced if the members feel a strong attachment to their religious community. In some arrangements religious affiliation is just one of several memberships an individual may have, and that too is not always the most important one. In other situations, on the other hand, religion is a decisive feature in the life of individuals. This is highly probable if membership of a religious group is linked to a nationalist movement where conflict or competition with another ethnic and religious group is strong. Under such conditions individuals feel a higher degree of solidarity with their own religious group, and this attachment increases rewards for adjustment and punishment for deviances. If all the three characteristic features are present it is highly probable that religion would influence demographic behaviour.

After having presented the newest research results it is worth calling attention to the fact that the consideration of time as finite has acquired a 'dominant' position in

the majority of industrially developed countries, the expression used by T. KUHN in his work on the change of paradigm (1962). This worldview primarily based on rationality has had a significant role in that the number of births declined in these countries, for as D.A. Coleman has put it in his keynote speech at the European Congress on Demography in 1998, 'it is not so obvious why rational and educated people should have children'. Research results dealing with this issue show that as a result of pushing sacral considerations into the background the stability of marriages (and partnerships) decreases and the number of children also declines. All this results in a social situation where the law valid for every living being, namely that 'life has to be passed on' is less asserted.

### 3. The effect of changes in the perception of time on the population pyramid

Dealing with the issues of birth and death one reaches the basic issues of life. Different answers are produced to these questions always preoccupying humanity, such as 'Why do we live? What is the meaning and aim of suffering? What happens to us after death?' in a finite and infinite perception of time. For man living in infinite space and time there exists a broad sacral world extending beyond the one sensed by our perception and instruments. That world has no boundaries in space or time, and the other world allocating place and receiving the dead is an important part of the sacral world. For man living in finite time the time horizon is narrowed to a period from birth to death. The effects on the importance of passing on life and on the number of children of this difference of outlook has been discussed earlier, next its effect on ending life and parting from life would be studied.

The majority of people preparing for eternal life accept the approaching end of life more calmly. They knew that final parting used to belong to the nice and moving moments of life for those who have lived their life decently. And people who died nicely were remembered.

Simple people are not afraid of death. They regard it the ruling of God: whoever was born must die. If God visits a person by illness, hardship and calamities, he/she would calmly accept it. He would hardly speak about his sufferings; he would not much cry over his dead, but would never forget them . . . This is why he tries to get properly prepared to accept death. One may say that he is continuously thinking about death. He has not missed the ultimate things as yet in his life and work . . . This knowledge ennobles him and lends moral sense to his life. With a few exceptions today only monks and peasants can live and die nicely, whose entire life is filled with a sense of the divine presence, and who would not forget about the great accounting of the soul, about death even in the depressing atmosphere of our age. (BÁLINT 1943, 185, *my trans.*)<sup>10</sup>

<sup>10</sup> 'Az egyszerű nép nem fél a haláltól. Isten rendelésének tekinti: aki született, annak meg is kell halnia. Ha Isten betegséggel, megpróbáltatásokkal, csapásokkal látogatja meg, megnyugvással fogadja. Szenvedéseiről alig beszél, halottait nem igen siratja, de soha el nem felejt . . . Ezért igyekezik a halál elfogadására méltóképpen felkészülni. Mondhatjuk, hogy a halálra folytonosan gondol. Életében és munkájában

Lajos Balázs expresses it similarly when he summarises the results of his researches conducted for thirty years in the Transylvanian village of Csíkszentdomokos about this question:

A dominant element of the beliefs related to passing away and death at Szentdomokos is animism, a strong belief in the soul, that the soul is an entity independent of the body. Passing away, the cult of the dead practically has no rite that is not motivated by this belief . . . to me the most important and most surprising characteristic of the worldview of Szentdomokos that I have got acquainted with and that I outline is that the other world can be recognised in it almost as a geographic reality, and socially it is reflected as a human environment: the soul is not going to the void and to nonentities . . . The body of the dead is deliberately buried in the same place where his/her relatives are . . . In my view this is also a moving example of the quest for existential security by the peasants: an understanding of life and a philosophy of life is uniformly and consistently present even in the sphere of the other world. (BALÁZS 1995, 285, *my trans.*)<sup>11</sup>

People who have shifted to a finite perception of time live in a de-sacralised world. To them only that is real which can be experienced by their senses or with the help of instruments. This profane approach to the world has fundamentally changed the daily life of people. They have been transported from infinite space and time into a space and time limited and cut short by themselves.

A characteristic symptom of this 'lockup' in time is hurry, hastiness, speed regarded as a disease of our age, considered by doctors and psychologists as the causes of several psychological and corporal illnesses. Several psychologists also regard the spread of narcotics as an attempted break out of the squeeze of space and time cut short. (This is suggested by the word 'travel' used in this field.) The most recent adventures in the 'virtual world' can also be classified under this heading as an attempt to widen the narrow limits of space and time. Several other experiments at breaking out of this closed world are known, and all indicate that man is a creature open towards the infinite, as it was stated by C.G. JUNG (1995a, b).

For people accepting and following a finite perception of time death will be terrible after which total annihilation awaits them. This fear of death is a strong incentive for pushing the limits of narrowed time as far as possible. This is why struggle for lengthening life has such an important role in scientific research, in medical practice

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a végső dolgokat általában még nem tévesztette szem elől . . . Ez a tudat megnevesíti, és életének erkölcsi értelmet ad. Ma már szépen élni és szépen meghalni kevés kivétellel csak a szerzetesek és a parasztnak tudnak, akiknek egész életét betölti az isteni jelenlét érzése, akik korunk nyomasztó atmoszférájában sem fellelkeznek meg a lélek nagy számadásáról, a halálról.<sup>2</sup>

<sup>11</sup> 'Az elmúlás és halál szentdomokosi hiedelemvilágának uralkodó eleme az erős animizmus, az erős lélekhit, az, hogy a lélek a testtől független lény. Szinte nincs is olyan rítusa az elmúlásnak, a halottkultusznak, amelynek ne ez lenne a mozgatórugója . . . a szentdomokosi, általam megismert és felvázolt világkép számomra legfontosabb és legmegdöbbentőbb jellemzője az, hogy benne a túlvilág szinte földrajzi valóságként felismerhető, társadalmilag pedig emberi környezetként tükröződik: a lélek nem a semmibe megy, és nem senki közé . . . A temetőbe testét tudatosan az elhunyt rokonokkal egy helyre temetik . . . A paraszti létbiztonság-keresésnek, szerintem, ez is megrendítő példája: egy életfelfogás, életfilozófia egységes és következetes jelenléte még a túlvilági szférában is.'

as well as in the life of modern people. All these further enhance and strengthen fear of death causing ever graver disturbances in the life of modern societies.

The growth of the significance of the issue is indicated by the fact that even a new branch of science specialising in it has also emerged.

Nowadays thanatopsychology has become an extensive branch of science. It studies the components and forms of manifestation of mortal fear, the process of the emergence and development of death consciousness and of the individual's image of death, the psychological background of dying and of mourning, the possibilities of supporting the person dying and the relatives (during illness as well as mourning), and also the methods of the mental health protection of the professional helpers of mourners.

(PILLING 1999, 1, *my trans.*)<sup>12</sup>

The sacral considerations being pushed into the background exercise a serious effect on the demographic processes of modern societies. Though struggle for extending life has been increasingly successful, research shows that the sense of fear is not reduced.

The almost general terror of death and the almost generalised fear of death in most people acquire an even more specific hue, for it influences also the human as well as professional attitude of doctors/healthcare employees towards transience.

(TEMESVÁRY 1996, 1420, *my trans.*)<sup>13</sup>

The struggles of doctors for extending the life of mortally ill patients are well known. And several patients are ready to make any financial sacrifice for getting their life extended. The relatives also feel that this is their duty. In this crisis situation the outlook of existence devoid of the sacral does not offer any real help. Perhaps the only behavioural pattern it offers is medical help and a quest for special curing methods. Meanwhile no one thinks about how fast all this may consume all the financial reserves the patient and his/her family have accumulated during their entire life and how the life of the descendants would be made difficult. With the continuous spread of the finite outlook of time that has become 'dominant' and 'decisive' in the 19<sup>th</sup> century after a change of paradigm it has resulted in changes on the level of society. An increasing number of people would like to extend the lifespan of themselves and of their family members. Medical science tries to meet this strong social expectation, which, besides several other factors, contributes to the growth of life expectancy at birth and, as a result, the number of births is declining.

<sup>12</sup> 'Napjainkban a tanatopszichológia már kiterjedt tudományággá vált. Kutatja a halálfélelem összetevőit és megnyilvánulási formáit, a haláltudat és az egyéni halálkép kialakulásának, fejlődésének folyamatát, a haldoklás és a gyász pszichológiai hátterét, a haldokló és hozzátartozóik támogatásának lehetőségeit (mind a betegség, mind a gyász időszakában), valamint a haldoklók és gyászolók professzionális támogatását végzők mentálhigiénés védelmének módszereit.'

<sup>13</sup> 'Még sajátosabb színezetet kap a halállal kapcsolatos csaknem általános rettegés és a legtöbb emberben szinte generalizált halálfélelem, mivel ezek befolyásolják az orvosoknak / egészségügyi dolgozóknak a mulandósággal kapcsolatos emberi és professzionális attitűdjét is.'

Though many people think that it has always been the task of doctors to strive to preserve life at any cost, and hence never to decline any possible treatment, in fact this attitude is a characteristically modern one. In the Classical Greek medicine it has no trace . . . it is not accidental that avoiding death by all possible means or the attempted extension of life by all means has become a moral commandment for doctors at a time when the spread of religious thinking was decreasing and when faith in life in the other world was beginning to disappear. Therefore striving to offer treatment at any cost is a modern feature without tradition  
(KOVÁCS 1997, 396, *my trans.*)<sup>14</sup>

The consequences of the change of paradigm in the perception of time have modified the shape of the population pyramid: its upper part has become 'stronger', the lower part has been significantly 'weakened', and its long-term stability has been continuously weakening. And if these efforts do not only spread in a few families or small groups but become general, as it happened in the 19<sup>th</sup> century and mostly during the 20<sup>th</sup>, then this does not only threaten the descendants of a given family but threatens the future of the entire society. Consequently the following inference can be worded: if instead of the infinite perception of time and the social group and set of institutions represented by it the finite perception of time and the social group and set of institutions acquire a 'dominant' and 'decisive' position then this would lead to such changes in the life of a society that makes the survival of that society impossible in the long run.

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<sup>14</sup> 'Bár sokan azt gondolják, hogy az orvos feladata mindig is az volt, hogy az élet bármi áron való megőrzésére törekedjék, és ezért soha nem volt szabad egyetlen lehetséges kezeléssel sem lemondania, valójában ez a felfogás jellegzetesen modern. Az ókori görög medicinában nincs nyoma . . . nem véletlen, hogy a halál minden lehetséges eszközzel való elkerülése, illetve az élet minden eszközzel megkísérelt meghosszabbítása éppen akkor lett a legfőbb erkölcsi parancs az orvosok számára, amikor a vallásos gondolkodás elterjedtsége csökkenni és a túlvilági életbe vetett hit tünedezni kezdett. A bármi áron való kezelésre törekvés tehát egy tradíció nélküli modern sajátosság.'

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