Is the Second Demographic Transition a useful research concept Questions and answers

Dirk J. van de Kaa

1 What is the value of analytical concepts, frameworks and theories?

Very wise men, the organisers of this debate. They do not pose a question that is virtually impossible to answer, such as: "Will you please prove that the SDT exists or does not exist", but one that can be answered in a dispassionate and straightforward manner: "Is the Second Demographic Transition a useful research concept?" My answer is a simple and unqualified "Yes". In my view it is really impossible to understand the demographic changes that have occurred in Europe, and in many other industrialised countries as well, since the mid-1960s, without accepting the idea that the many and very varied changes we have observed in a whole series of demographic variables are interrelated and may in their totality be indicative of, and represent, the manifestation of a change in demographic regime.

Theories frequently precede observation in physics. And, if observations do not match theoretical expectations, there is trouble. When the number of neutrinos detected on earth from nuclear reactions in the core of the sun was only about a third of what had been calculated, that resulted in "the mystery of the missing solar neutrinos". Neutrinos had always been thought to have a mass of precisely 0, and the mystery could only be resolved by assuming that not all of the three forms of neutrino had a mass of 0. Apparently, at least one, and may be all three, could change in type. And, if that were so they knew time and, consequently, had a mass different from 0. In the social sciences, theories are not that precise. Most commonly their nature is that of a concept, or of an explanatory or analytical framework. But as such they fulfil the same function as theories in physics, and in the natural sciences more generally. Two British science writers, Ian Stewart and Jack Cohen, had the following to say about the subtle role of theories in their 1997 book entitled *Figments of Reality*: "Everyone accepts that theories provide explanations of observed 'facts' by fitting them into a coherent conceptual framework. The true role of theories, however, lies rather deeper: without a theoretical framework, the meaning of observations may not be clear." I find that very well put and quote it with full approval.

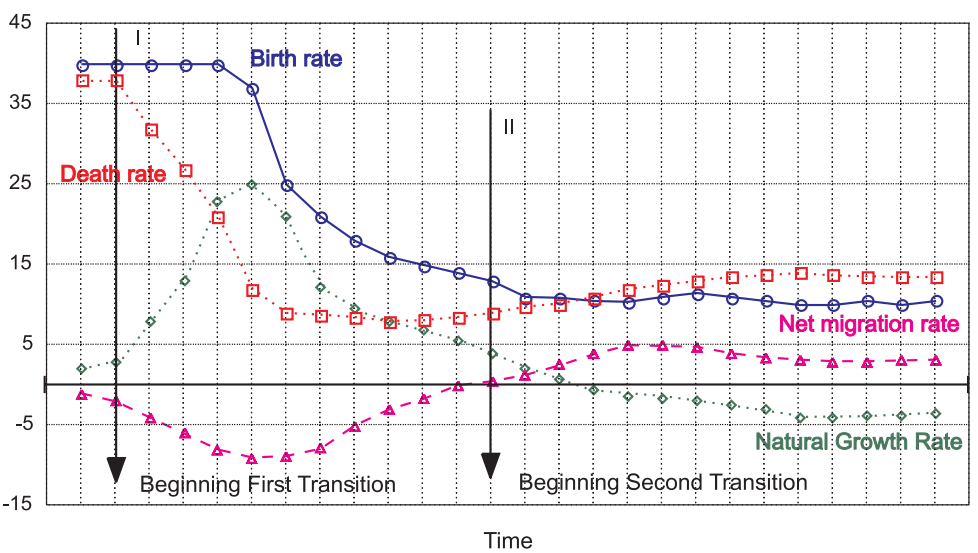
2 Did the focus of the SDT concept change?

Ron Lestheaghe, who unfortunately could not be here today, and I used the term "Second Demographic Transition" first in a joint paper in a special volume of the Dutch sociological journal *Mens en Maatschappij* that we jointly edited in 1986. When preparing the outline of that volume we were again struck by the simultaneity of the changes in fertility and family formation in North-Western Europe. As we had both written on European fertility before and knew the findings of our contemporaries in that area, we ultimately decided to pose the inevitable question: "Did we see a second transition?" The paper was published in our mother tongue, a language regrettably not well understood outside the Low Countries. Thus some people now assume that the original focus of the concept was on "fertility falling below replacement level and staying there" and still equate that situation with the SDT. However, even the initial focus of the concept was broader than that. In keeping with Philippe Ariès' important paper on the motivation for fertility decline as published in 1980, we argued that the changes in the trends were the result of two successive motivations. Not solely with regard to "having children" but, much more generally, with regard to the family. The two transitions appeared to be founded on different family models. The "bourgeois family model" underlying the first transition apparently was giving way to the "individualistic family model", so we argued. Nevertheless, in our first presentation we did not venture beyond that. The broadening of the concept to cover all components of population growth dates from a later date. I will not follow that development in any detail, but will make some observations based on my own thinking in that regard. When I prepared a paper for a small meeting held in Florence in 1988, I attempted to make the SDT concept more comprehensive. I offered a matrix relating changes in the culture, structure, and technology of our societies to the functioning of individuals, of primary and secondary groups, and I attempted to show how that might have affected the fertility behaviour observed. I called it an explanatory framework for the SDT and wondered whether it could also provide an "… insight into the relation between fertility, nuptiality, mortality and migration". My answer was not very precise, as yet, but positive. "Sufficient, no doubt, to realise that the processes of change they underwent, were not independent of one another", was what I then wrote.

Ten years and a lot of reading later, when I was invited to give a plenary address at the European Population Conference in The Hague and tried to put Europe's demographic history in a long-term perspective, I had every reason to return to that issue. It soon dawned upon me that the classical model of the "demographic transition" was badly flawed. Customarily it only displays the relationship between the determinants of natural growth. It depicts the birth and death rates, together with the rate of natural growth, even though it is well known that during that transition the European countries siphoned off excess population through international migration. I sat down with a notepad of squared paper and the next few days spent several hours trying to rectify that serious omission and then found it quite natural to extend the graph to incorpo-

rate the most recent developments. I was very pleased with the result and have incorporated it in the encyclopaedia entries I recently prepared at the request of Jan Hoem, and Paul Demeny & Geoffrey McNicoll respectively. It probably was a false sense of modesty that made me omit the graph during my Warsaw introduction. But it speaks better than words. So here it is again.

What the graph suggests is that the same mind set that is responsible for the decline in fertility and the changes in family formation also affected mortality and international migration. The Western European countries became countries of immigration with the introduction of the guest worker schemes around the mid-1960s. The dual market theory of international migration lists four reasons why developed societies tend to need and attract migrants. These have in common that they are related to rigidities in their labour market. Occupational hierarchies make positions at the bottom of the pyramid of occupations unattractive to the nationals of these countries. They do not confer the status they seek, while they do not satisfy the ambition of parents keen to see their few children upwardly mobile. They offer little or no opportunity for self-realisation. The unexpected decline in mortality at advanced ages that began 10 or 15 years ago surprised demographers nearly as much as the decline in fertility. I see it as the delayed, better still the "lagged" manifestation of the long term effects of the changes in life style – healthier food, less smoking, more exercise and so on – adopted by these generations from the mid-1960s onward. Many people seek to live as long as biologically feasible; they seek medical assistance to realise their full potential life span and accept a personal responsibility in living a healthy life.



The model of two successive demographic transitions I developed in 1998.

3 How can the SDT best be characterised?

I would say the SDT is best conceived of as a change in demographic regime. To clarify that point I have to go back to Adolphe Landry and the French demographic tradition more generally. At the beginning of the 20th century Adolphe Landry published a brief paper in which he argued that a succession of demographic regimes was typical of human history. As I have recalled in my foreword to the book Tomas Frejka and Jean-Paul Sardon will soon publish on cohort fertility in Europe, he came back to that issue on various occasions. The point he made can be summarised as follows: Just as with regard to political changes one may speak of demographic revolutions if one regime is succeeded by another. And this even if that change does not occur suddenly but takes some time to become established. Thus, so Landry argues, when we characterise the substitution of unlimited procreation by limited procreation as a *"révolution démographique"* we do nothing more than adhere to that clear definition. In hindsight it is unfortunate that this term was not accepted internationally and became replaced by transition. Moreover, as defined in this way the transition could only have one outcome: a demographic constellation typified by quasi-stability resulting from a combination of a high mortality level with a high level of fertility to match it would be replaced by a new balance in the components of natural growth at low levels of both mortality and fertility. This was a "good story" and became very popular. Everyone understood that mortality decline, if not followed by a decline in fertility, would lead to runaway population growth. The capacity to reproduce had to be brought into line with the new, more limited needs. As noted above, international migration played virtually no role in that transition concept. Moreover, that particular transition from "high" to "low" could only occur once in the history of mankind and this has "blinded" many in the demographic profession when a new regime change presented itself.

It is precisely this new regime change that the term "second transition" tries to encapsulate. The justification for the use of that term lies in the crucial difference between the demographic constellation in the early 21st century and that of the late 18th century. Then the decline in mortality led to an adjustment in fertility. Now it is the second natural growth factor, fertility, that apparently makes reaching and maintaining a long-term population balance an unattainable objective. The fundamental changes in fertility and family formation in industrialised societies after the mid-1960s were, as Lesthaeghe and I sketched, truly revolutionary and occurred with surprising suddenness and simultaneity. It is the unprecedented low level of fertility, coupled with the increased expectation of life at advanced ages, that acerbates the ageing process and makes migration the obvious variable to provide compensation.

4 What are the main differences between the first and second transition?

There are numerous differences between the first and second transition. With reference to earlier authors I should like to stress the following. While mortality decline provided the "engine" for the first transition, fertility decline is the "engine" of the second. In both instances international migration plays a significant role in the balancing equation, but while it provided a safety valve of sorts in the first, it is a carefully guarded inlet in the second. Thus there are major differences in dynamics. The guiding principles also differ. The fundamental principle of the first transition was, in Landry's terms "la rationalisation de la vie"; the world was demystified. The fundamental principle of the second is, in my view, the right to self-realisation granted to each individual; it is the demystification of social control. To paraphrase Landry: it is the: "individualisation de la vie". Moreover, the reign of Ariès' king-child came to an end and is replaced by the reign of the king-couple, just as preventive contraception was replaced by self-fulfilling conception. Fertility has become a "derivative". As I have recently elaborated in a contribution to a discussion initiated by John Simons, the managing editor of Population Studies, it is the outcome of a process of self-questioning and self-confrontation by prospective parents. They typically ask themselves: "Will our lives be enriched by having a child, or an additional child now?" The couple will weigh a great many aspects, including the direct and opportunity costs, but their guiding light will be whether it would be self-fulfilling. Would the parental satisfactions as perceived offer sufficient compensation for everything that having a child and caring for it entails? Young people do not have well-defined fertility targets when they begin conjugal life: whether they have children or not, have them early or late, when they are married or before, it all depends on a sequence of decisions made when various options present themselves.

5 What if certain countries or regions do not follow the conceptual pattern?

That is very significant for the countries and regions concerned and certainly deserves special research efforts. The purpose of a conceptual framework is precisely that it allows researchers to highlight and study national and regional patterns and, if possible, to explain and understand the variations encountered. Deviations from a fairly general pattern do not by themselves diminish the value of a conceptual research tool or framework. By the same token it is not of any great significance if countries and regions do not rapidly converge to a standard pattern. In fact, if specific ideas reach populations with quite different cultural endowments at different points of time, diffuse at different speeds depending on the social and economic setting, rapid convergence is, in my view, unlikely. However, over a longer period of time

largely parallel behavioural shifts will probably narrow the range of the measures demographers apply.

6 When can we say that the SDT has begun or is taking place?

We have learned from the late Ansley Coale that a simple measure appeared to be sufficient to establish whether the first demographic transition had begun. Once marital fertility had declined by 10 percent without rising again, that date was assumed to mark the beginning of the transition. As a measure it is easy to work with and it has, undeniably, revealed interesting geographical patterns. However, it has obvious and serious shortcomings. If mortality decline was the engine of that transition, fertility decline measures the response to changes rather than the change itself. Moreover, what really happened in fertility occurred in people's minds. As Etienne van de Walle has repeatedly stressed, fertility behaviour reflects the cultural representations people have; as these change, fertility change will follow. Again, while the measure is convenient, it is at best a proxy. The second transition is a very complicated affair. It is and was affected by changes in the culture, social and economic structure, and in the technology of our societies. The advent of much improved, highly efficient contraception played a catalytic role, as did improved medical technology and communication. The status of women altered, they became more autonomous in matters concerning procreation and partner relations. Moreover, to a certain extent everyone could free him/herself from social control, and the right to self-determination became a guiding principle. In all likelihood this implies that in the search for a single measure to ascertain the situation we should not aim for a specific demographic variable, but at a measure capable of documenting changes in value orientation, in *Weltanschauung*, or in the spirit of the age.

7 Can we prove the existence of the SDT?

Many hundreds of articles and books have been published on the topic of the demographic transition since that particular process of demographic change was first recognised early in the 19th century. The phenomenon has been studied from a great variety of angles and in a wide range of countries. Even so, it is still poorly understood. Take the central tenet that it is mortality decline that has triggered the whole process of change and that it should, as a rule, therefore precede the decline in fertility. Francien van de Walle of the Princeton project established that at a sub-national level there were many cases in which fertility declined first. In addition, the search for regulatory mechanisms at the individual or aggregate level has been singularly unsuccessful. John Cleland in a review of the literature and data published in the year 2001 concludes to the absence of any mechanical relationship between mortality and fertility decline. He further observes that a causal link between the two cannot be em-

pirically tested. "Too many mediating factors obscure any mechanical dose-response relationship between probabilities of survival and fertility trends". It is also apparent that the onset of the transition has occurred at very different levels of fertility. What is decisive, so John Casterline argues in the same year, is "… the spread through a population of the conviction that achievable economic aspirations are undermined by continued childbearing". He adds that this conviction might arise in situations where escalating aspirations outstrip economic growth as well as in a situation where economic contraction threatens the achievement of existing aspirations. It is fair to say that nearly all statements of a general kind about the classical – for me now the first – demographic transition can be easily contradicted. Nevertheless, as I heard Paul Demeny once argue, there appear to be no counter-examples to the rule that the transition is a universal phenomenon that affects all countries in the course of their development from a pre-industrial to a more modern society.

I do not believe that the search for a precise set of relationships between fertility, mortality, and migration during the second demographic transition will be more successful. And neither can I think of any good reason why one should expect to be presented with firmer proof for the existence of the second than for the first transition. Each transition requires a plausible narrative anchored, to the extent possible, in empirical data. Nevertheless, it would surprise me if the new demographic regime wouldn't in due course manifest itself in all industrialised countries experiencing the value change to late, reflexive, or post-modernity. Let me stress that I have no quarrel with colleagues who are not convinced by my arguments. In fact, dissenting voices are very welcome; they may help in improving our understanding and may bring us closer to the truth. I hope, however, that even they will while they wait for better evidence or new data no longer teach the substantive demography, concepts and "theory" of more than a quarter of a century ago.