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The Roots of the Millennium Development Goals: A Framework for Studying the History of Global Statistics

Daniel Speich Chassé*

Abstract: »Die Ursprünge der Millenniums-Entwicklungsziele«. Global comparative statistics have become a major mode of international political communication. One prominent case in point is the Millennium Development Goals as defined by the United Nations in 2000. The article contributes to a critical discussion of their functioning by designing a framework for the study of global statistics. Historians of statistics have so far largely focused on the national level and posited a strong connection between calculating social instances and governing collectives. The category of the nation was one of the foremost effects of statistics, and numbers have helped in strengthening national institutions. But what about the international realm in which the Millennium Development Goals are located? The leading question of this article is to what extent a co-construction of statistics and political institutions can also be found in the analysis of global statistics. The focus lies on statistical practices in East Africa in the epoch of late imperial rule and during decolonization. The Gross Domestic Product (GDP) is of special interest. Statistical knowledge was surprisingly incomplete and became a major issue only with the formation of new states and new international organizations post-1945. Statistical knowledge as represented in the Millennium Development Goals works through a radical reduction of complexity and necessarily renders a biased image of the world. In contrast to the national level, on the international level no single center of calculation emerged with the growing power of statistics.

Keywords: History of statistics, modern African history, history of international organizations, history of development, imperial history, history of economic thought.

1. Introduction¹

In the year 2000, the United Nations set in place eight Millennium Development Goals (MDG) to be reached by 2015 and subsequently defined no less

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than fifty-three groups of numerical indicators in order to monitor compliance.² In 2013, the UN General Secretariat launched a global consultation process including an alleged one million individual voices in order to define post-MDG procedures.³ This general assessment is an opportunity for looking back at the historical roots of the MDG initiative that lie in the history of the statistics of economic development and change. One recurrent issue in the ongoing debates is the question of whether development indicators are biased towards non-sustainable economic growth and whether the statistical form of knowledge at use needed revision (Morgan 2008; Hibou and Samuel 2011; Jerven 2013). The argument here is that before instituting more adequate or better statistics, it might be helpful to recall why and how the problem of global economic inequity became almost completely subject to a global statistical gaze in the first place. While some of the MDG have clearly been missed and the overall success of the initiative is being contested, the UN has achieved through the MDG a very effective homogenization of international political discourse. The roots of this highly successful form of numerical communication across the North-South Divide lie in the political dynamics of decolonization.

It has become a normal assumption that the basic facts and figures about the living conditions of the inhabitants of planet Earth are easily available at our fingertips.⁴ Huge sets of data have been gathered over the last decades and an enormous progress was achieved since the 1950s in standardizing the procedures of data collection, in homogenizing the basic categories, and in constructing mathematical tools that allow for their comparison. These figures prove facts and politicians are invited to govern accordingly. Statistics have become part and parcel of a computerized global social reality and they are constantly being referred to as possible agents of change. But the historians of international politics have so far not been very interested in studying the making of a planetary statistics craze, of which the Millennium Development Goals bear witness. We are neither well informed about the origins of global statistics nor about their historical dynamics. A recent German textbook on international history, for example, completely ignores the technical dimension (Dülffer and Loth 2012). When taking modern world politics into view, historians tend to neglect technical internationalism (Speich Chassé 2014) because their competencies are strong in the analysis of political deliberations but comparably weak in the study of the underlying social-scientific framework. Statistical data are frequently used as a

² See <<http://www.un.org/millenniumgoals/stats.shtml>> (Accessed January 8, 2015).

³ "A Million Voices: The World We Want." See <<http://www.worldwewant2015.org/millionvoices>> (Accessed January 13, 2015).

⁴ The Universities of Pennsylvania and of Groningen as well as the World Bank host such data. See <<http://www.rug.nl/research/ggdc/data/penn-world-table>> (Accessed January 8, 2015) and the "World Development Indicators" at <<http://data.worldbank.org/data-catalog/world-development-indicators>> (Accessed January 8, 2015).

kind of reality-check in consigning past politicians' room of manoeuvre but are only rarely made a subject of historical study in themselves.

In what follows, I suggest some guidelines for writing the history of global statistics by drawing upon recent French sociology (Diaz-Bone 2015). Two findings seem important. First is the observation that statistical facts are the result of conventions and still work as the real. Reality and conventionality need not be considered as the two opposites in a representational order but rather fuse into one world of material concerns. Matters of fact are inseparable from, and constitutive to, all matters of concern (Latour 2004). Second, this has consequences for the analysis of power. Modern governmental authority has increasingly been expressed through the working of numbers while statistics gained strength as a representation of the real, because they were linked to centers of power. Historically, there was a co-construction of scientific statistics and power regimes. Or to put it in the shorthand suggested by Alain Desrosières: modernity means that proving and governing became closely intertwined (Desrosières 2014). These findings invite the historian of global statistics not to separate between the intellectual history of social-scientific knowledge on the one hand, and the political history of governing practices on the other hand. Rather, the scientific production and the political use of statistics need be assessed in a combined narrative.

As a matter of historical fact, the predominant political concern in modernity, the building of nations, could never have been imagined collectively without the compilation of numerical data. As Desrosières and others (Sandl 1999; Behrisch 2015) showed, philosophical conceptions of the state in late 18th century produced a specific demand for statistical knowledge, which then helped the new conceptions of the state to materialize. Desrosières borrowed from Abbé Sieyès the term "Adunation" to name the process of unifying the manifold systems of reference to the nation (Desrosières 1998). The category of the nation was one of the foremost effects of statistics and numbers have helped strengthening national institutions. Recent historical studies on Germany and the United States have substantiated this twofold connection for the 1930s (Tooze 2001; Didier 2009). But what about the international realm in which the Millennium Development Goals are located? Global political communication at the closing of the 20th century was intrinsically connected to comparative statistics of all kinds. According to Wendy Espeland, social scientific quantification has become "a peculiar modern ontology, in which the real easily becomes coextensive with what is measurable" (Espeland and Stevens 2010, 432). Bettina Heintz posits that numbers generate objectivity and offer a kind of generalized language which objectifies social difference. According to her, assumed political neutrality makes numbers especially well-suited for communication on political cleavages and difference (Heintz 2012). The leading question of this paper is to what extent a co-construction of statistics and political institutions can also be found in the analysis of global statistics.

In order to address this issue, the paper asks which institutions have historically produced knowledge about economic development on a planetary scale. It considers global statistical interaction with a focus on East Africa, because one of the MDG masterminds, the economist Jeffrey D. Sachs, ventured out from the Olympic world of international institutions to the Western Kenyan province of Nyanza, where a village called Sauri became his testing ground (Sachs 2005, ch. 12). East Africa played a crucial role when it came to localizing the MDG initiative after the Millennium. It thus seems important to substantiate local historical trajectories. The first section of the paper reconstructs the high hopes that were connected to the end of European imperialism in East Africa around 1960. In this, international organizations such as the UN were of special importance because they incorporated the promise of a rational way of governing the world (Mazower 2012). However, the assumption of a globally transparent space proved largely fictitious. Upon closer scrutiny, a certain tension arises between the political use of global statistical figures and the contingencies in their making. The second section dwells on the ambivalent record of late imperial rule in statistical matters. The East African experience shows that the modern statistical imagination not only cleaned up the intricacies of social life, but also produced a chaotic backside to this governmental fiction. With respect to the economic development of poor countries the name for this backside was the non-Western world. Colonial bureaucrats were unable to cope with the mathematic tools of social-scientific inquiry that came to dominate the domestic policy of industrialized countries in the course of the 1930s' economic crisis. But precisely this mode of "Adunation" became a global template in the second half of the 20th century. The third section recalls that the statistical tools of governance are intrinsically connected to the political form of the modern nation. A methodical nationalism is built into them that was largely useless for the purposes of imperial rule but warmly welcomed by the first generation of African politicians at the moment of imperial decline. The final section connects their developmentalism to the United Nations' Millennium Development Goals. They were defined following a critical discussion in the 1980s that wanted to highlight the prospects of the individual vis-à-vis the dominant fiction of nation-centric growth (Ul Haq 1995). Global statistics cannot easily be connected to the emergence of a single center of power.

2. The UN and Independence in East Africa

Starting in 1947 the United Nations built up a worldwide system of regional bodies that focused on the construction of development knowledge (Berthelot 2003). The first were an UN Regional Commission for Europe located in Geneva, and a same-such organ for Asia and the Pacific in Bangkok, Thailand. Then Santiago de Chile became the main seat of a UN Regional Economic

Commission for Latin America. This Latin American UN Commission strongly influenced UN development discourse through comparative statistical work because its General Secretary Raul Prebisch voiced new theories of global economic dependency (Dosman 2008). Next was Africa. The Ethiopian Emperor Haile Selassie I opened the first session of the UN Commission in Addis Ababa in 1958. He financed the construction of new buildings and connected their inauguration to a very strong African discourse of postcolonial independence. He had commissioned the Ethiopian artist Afewerk Teklé to design a huge transparent window panel in the new premises called “Africa Hall.” It bore witness to an independent African perspective by depicting the UN as a medieval knight who would safeguard the continent against foreign domination.

At the opening ceremony, Haile Selassie I is reported to have said that, in this building, the UN would allow Africans from all parts of the continent – for the first time in history – to sit together on African soil in order to debate the future of their countries in a self-determined way. And Mekki Abbas, the first Executive Secretary of the African Regional Commission, understood the founding moment as the most important date in recent African history,⁵ as it symbolically marked the end of colonial rule. The artist Afewerk Teklé connected this rhetoric of an African rebirth to Ethiopian Coptic theology and put a huge figure of an African Messiah at the center of his transparent glass composition against which the UN knight was dwarfed.

We can understand this African episode as one clear expression of a promise that was voiced by US President Harry Truman in his inaugural speech in 1949. Truman’s program of US postwar policy stated four points: first was an unconditional commitment of the United States to the United Nations; second and third were the tasks of reconstructing Western Europe economically and with respect to military security. And, fourth, Truman designed a worldwide development scheme in order to eradicate poverty and global economic inequality. Statistics and technical knowledge were the American President’s first objective. The founding of the UN Regional Commission for Africa in Addis Ababa aimed at making the benefits of Western scientific advances and industrial progress available to the relatively poor new African countries. The United Nations Regional Economic Commission for Africa was founded as a kind of “clearinghouse for skills and ‘knowhow’” (Lie 1954, 146). It had no executive power and could not open up funding for development investments, but it immediately started collecting knowledge and expertise. Around 1960, scientists from Europe, Australia, Asia, the Americas, and Africa ventured on the Commissions’ behalf into a series of surveys on all possible aspects of African development and one academic gathering followed the other inside Africa Hall. Economic statistics were held to be the chief informant and agent of change.

⁵ Commission Economique pour l’Afrique: Rapport sur la première session (29.12.1958–06.01.1959). E/3201 E/CN.14/18.

The leading idea was to carefully revise the existing body of development techniques and investigate into its adaptation to African demands. The African commission under Mekki Abbas, then Robert Gardiner, and later Adebayo Adedeji, aimed at designing a specifically African body of development knowledge (Misteli 2015). The relative underdevelopment of Africa was understood as a consequence of imperial partiality and arcane administrative techniques. Now, the transparency of modern rationality should tear down imperial segregation and build the foundation for a unified modernizing continent that would play a self-determined and important role in the world economy (Cooper 1981). To Africans of the first generation at independence, the technocratic UN approach seemed a plausible way of making their pan-African visions of unity become real. Pan-African visions of unity also gave rise to the founding of the Organization of African Unity a few years later in Addis Ababa. Thus, much to the satisfaction of Haile Selassie I, the Ethiopian capital became a hub of African science and technology based modernization and unification.

One important issue in these debates was a new technique of comparative macroeconomic measurement. It had become important for international experts to indicate a sum total of national productivity as expressed in the Gross Domestic Product (GDP) for every territory or nation state that was to be developed. Macroeconomic data could be combined with a population census resulting in the GDP per capita. This indicator could then be subjected to a time series analysis resulting in a growth rate of the GDP per capita. For international bureaucrats, this indicator was an absolute necessity in order to reduce the complexity of world economic dynamics. And to African nationalists, this comparative statistical knowledge was very helpful in two respects: Indicating a GDP per capita growth rate allowed them to formulate spectacular promises of future wealth to their people at home. And at the same time, this transparent language enabled them to prove the relative poverty of their nation vis-à-vis the rich industrial countries. This comparison was important to legitimize a massive quest for financial development aid in the course of decolonization and to mark sovereignty (Speich Chassé 2011, 2013). One Western observer of the early 1960s “Wind of Change” over Africa waggishly reckoned after having assisted to debates in Addis Ababa: “Today in many independent countries national accounts are regarded, alongside the national flag and the national anthem, as symbols of independence” (Barkay 1963, 85).

International associations took advantage of the new African location in order to hold their gatherings. A series of meetings of experts in economics took place, such as the convention of the International Economic Association, which held its yearly conference in 1961 in Ethiopia. This organization had been founded a few years earlier by UNESCO and brought together national economic professional associations such as the German *Verein für Socialpolitik* or the American Economic Association under one umbrella. Its president was the British economist Edward Austin Gossage Robinson, who once had stated as

the main task of this body “the carrying of modern economics to parts of the world that were out of touch” (Robinson 1964, x).

According to the British economic statistician Phyllis Deane, who had participated in the International Economic Association’s conference, the 1961 gathering assembled a new set of voices across colonial boundaries. There were three distinct pro-development groups of experts in Addis Ababa. “Each of this very mixed bag of participants had his own special grain of debatable truth,” she said, and continued:

There were the African speakers, with their stubborn faith in industrialization, there were the European Africans, with their equally stubborn faith in the unique virtues of imported capital and enterprise; and there were the international experts bravely grappling with slippery statistics in the attempt to draw up their league tables of comparative economic development (Deane 1965, 422).

We can connect these groups to different uses of statistics. The first group consisted of African nationalists. They appropriated the promise of modern technology in order to reproduce the British historical model of domestic industrialization in their own new nations. Second were colonial administrators and White settlers whom Phyllis Deane called “European Africans.” They picked up the new quest for transparency and stressed the importance of cadastral land titles and imperial bonds of property rights in order to secure capital flows between the metropole and the periphery. And third was a quickly growing new group of international bureaucrats who had evolved out of the pre-War League of Nations. Their agenda was to depict the planet in a coherent world of numbers. In the latter part of the 1960s these three groups molded together into one homogenous social group of statistically minded international development experts. They attempted to depoliticize the problem of global economic interaction by compiling assumedly objective statistical tables. And they quite clearly shared the view that imperial rule was ending. A more equitable mode of global knowledge was requested.

3. Africa in Late-Colonial Statistics

What administrative practices had been in place before 1961 in East Africa? What was the use of statistics in British imperial rule? In 1961 the International Association for Research in Income and Wealth also convened at Addis Ababa’s Africa Hall. At this expert meeting the use of macroeconomic indicators was subject to debate. An official from the East African colonial administrative body explained, that the Colony of Kenya did not possess very sophisticated statistics. This is remarkable, because Kenya was a Settler colony in which more sophisticated modes of colonial rule were in place than for example in the Uganda Protectorate. Generally, he indicated “that the basic statistical information is quite inadequate in many cases with respect to certain important

sectors of the economy” (Kennedy et al. 1963, 389). The British colonial administrator at the Addis Ababa conference had to confess that measured against the norms of a new international discourse of statistical transparency, British colonial administration had little to say. “It is, therefore, not possible to construct a useful series of *per capita* real incomes. Nor, because of the absence of useful price indicators is it possible to produce a satisfactory series showing changes in aggregate real domestic product” (Kennedy et al. 1963, 391). Comparative economic statistics on a global scale were a mere fantasy according to this source: “The National Accounting material is not sufficient to be of great help or assistance in development planning; certainly it has not been used in East Africa” (Kennedy et al. 1963, 410).

It is surprising to learn that colonial authorities lacked comprehensive data on population and economic potential. Current research emphasizes the modernity of colonial rule. Some authors have suggested understanding the colonies as “laboratories of modernization” (van Laak 2004; Tilley 2011). The Indian postcolonial scholar Arjun Appadurai has analyzed the cultural conditions of expanding European notions of modernity into a global scale. In this, he explicitly mentioned numbers and argued that counting was instrumental. He suggested reassessing the study of colonial governmental practices and to further inquire into “the ways in which they employ quantification in censuses as well as in various other instruments like maps, agrarian survey, racial studies, and a variety of other productions of the colonial archive” (Appadurai 1996, 115). Recent work on India has followed his proposal. U. Kalpagam showed how the East India Company used entrepreneurial bookkeeping in the 19th century in order to simplify the representation of socio-economic conditions on the Indian sub-continent and thus paved the way for modern (i.e. rational) governmental techniques when the British state took over governmental responsibility (Kalpagam 2000, 2014). And the anthropologist Akhil Gupta followed this line of inquiry into an analysis of the postcolonial Indian states’ development practices which have led to a notoriously inefficient bureaucracy (Gupta 2009, 2012). In the Indian experience the production of statistics on development clearly has colonial roots. Also for Africa such continuities in practice and staffing have been observed (Bonneuil 2000; Hodge 2007). But it is still remarkably difficult to trace present-day numerical statistics back into the colonial period. In view of the quest for statistical transparency that was voiced around 1960 by international bureaucrats, settlers, and the nationalist administrators of the newly emerging African nations, the British colonial statisticians came under pressure. This finding is historically significant. Obviously we have to be careful in imagining colonial rule to have been ultramodern.

In the European experience, modern national statistics focused on territory, on population, and on economic potential. What was the state of the statistical art in late British colonial rule? With respect to the cartographic survey of the territory, the Kenyan colonial authorities performed fairly well. The Colonial

geodetic survey had produced large-scale maps of East Africa that were still in use in independent Kenyan administration as late as the 1980s, for example, in the management of timber and fuel wood production around Mount Kenya and in the Aberdares. In the Coast Province, the creation of a cadaster in order to legally secure land titles was conducted in the years between 1915 and 1920, but remained highly contested (Cooper 1980, ch. 5). Expanding such a governmental venture into inland territories was a major challenge to the District Officers. Care had been attributed only to a cadastral survey of the “White Highlands” in the Nairobi region, and around Machakos, Nyeri, Nanjuki, Nakuru, Kisumu and Eldoret during the 1940s and 1950s. This included the legal definition of arable plots in order to administrate the contestation of land between the white settlers, the Maasai pastoralists and Kikuyu smallholders. It is well-established that this governmental intervention into questions of land ownership was a concomitant circumstance of the “Mau Mau” uprising during the early 1950s (Leys 1971, 320; Leo 1981; Kanogo 1987). Areal statistics were a major player in Kenyan history as they simplified land tenure and produced evidence on paper that successively turned into a physical reality by means of expulsion and resettlement.

With respect to the census of population, the East African colonial record is poorer. The counting of populations was an important activity for colonial regimes, for the new nations that emerged with decolonization, and for the international organizations that since then came into existence (Hartmann and Unger 2014). Looking back at the connection between Empire and information, counting people had been important for the Early Modern Spaniards as well as for the British in 19th century India. Important books have recently appeared under the headings of “*Imperium und Empirie*” (Brendecke 2009) or “*Empire and Information*” (Bayly 1996). It is well known that British colonial administrators tried to count all heads of population under their rule.⁶

But the modern techniques of administration and governance were a huge challenge not only to bureaucracies that were confronted with the problem of long-distance control (Law 1986, 234 et seq.), but also to the authorities of relatively coherent national political bodies within the close bounds of Europe. It had been a huge challenge for a highly industrialized and small nation like Switzerland to produce adequate aerial statistics and a correct population census in the late 19th century (Jost 1995; Gugerli and Speich 2002). In view of this record, one can probably not overestimate the problems that the British colonial administrators must have had when trying to correctly assess the natural features or count the number of their legal subjects in vast areas across Asia and Africa. The colonies might have worked as “laboratories of modernization” in the colonial imagination, but in the daily routines of statisticians working

⁶ “Almost all the Colonial territories took a population census in either the late war or the early postwar years. Nigeria is an exception” (Searle et al. 1950, 18).

overseas most probably more modest visions prevailed. The first census in Kenya was taken as late as 1948 (Dörnemann 2014). Prior to this date, British administrators had but a rough idea of the number of subjects under their rule, and knew little about their economic activities. Colonial rule built less on facts than on speculation and prejudice (Ferguson 1999, 53). For Uganda, the colonial authorities estimated a head number of 5.7 Million in 1958 and 6.3 Million in 1959 – being well aware that this increase was neither due to fertility nor to migration but to ignorance (Kennedy et al. 1963, 392).

With respect to the numerical statistics of economic potential, the African record of British imperialism is especially poor. Only in the 1930s did the British Colonial Office finance a large-scale statistical survey of its African possessions that was coordinated by Lord Hailey. The result was a book with over thousand pages – the “African Survey,” published in 1938 (Hailey 1938). It included descriptions of different African peoples and regions much in the tradition of descriptive statistics (Schlözer 1804). The epistemic basis of this statistical work was the qualitative inquiry of anthropology according to Bronislaw Malinowski that was en vogue at the time (Malinowski 1929). The main idea was to record assumedly ancient forms of collective life that were thought to vanish in the course of the colonial civilizing mission (Tilley 2011).

During this research, one British economist, Edward Austin Gossage Robinson, realized the need to more systematically gather quantitative information on the economic situation in the African colonies. In 1940, Robinson commissioned the young economist Phyllis Deane in 1940 to compile social accounts for Southern African territories out of published material. He wanted to apply the latest techniques of national income accounting that had been tentatively applied to India (Rao 1940), and that had been used by his colleague in the economic profession, Colin Clark, in a worldwide survey of economic development (Clark 1940). The idea was testing the usefulness of the new macroeconomic statistical tools for better planning the economic development of the colonies.

In domestic British economic policy these new statistical techniques as from 1940 gradually gained in importance. Within the larger context of Keynesian macroeconomic theory these statistics became fundamental tools in planning the national economy (Suzuki 2003). Planning generally gained ground in political practice during the final years of the Second World War. It is no surprise that this also started to influence the assumptions about how the colonies should be ruled. Evidence for such a gradual change is a small pamphlet from 1944, which wanted to strengthen the public support for colonialism in Great Britain. In this book, Phyllis Deane presented early results from her statistical work. Many graphs, statistical tables, and carefully chosen pictures gave the impression of the colonies as islands of tranquility, order and prosperity. The authors stated: “No one will tolerate a return to the unplanned chaos of the inter-war years; the chaos of slump and slum, of malnutrition and mass unemployment. A plan is demanded” (Huxley and Deane 1944, 2). In the future,

collective life on the British islands as well as in the colonies should be organized in a rational and transparent way. Statistics were to form a basis.

But this was not an adequate depiction of African realities. Grace Davie has reconstructed the contested nature of knowledge on poverty since 1855 in South Africa (Davie 2015). Despite the fact that social scientific inquiries on economic issues remained incomplete, their authors always found themselves immersed in highly political debates. Phyllis Deane sensed these complications. When the final results of her study on “The Measurement of Colonial National Incomes” were published in 1948, she was very much unsatisfied and called her work “An experiment.” In an introductory note to this pioneering study, E. A. G. Robinson recalled the difficulties of macroeconomic statistics:

Any test of their application to the measurement of a more primitive national income was [...] difficult, since very few attempts had been made to measure colonial national incomes, and none of them were in a form which readily permitted an already accumulated body of data to be rearranged to see whether it could be used to exploit the advantages of the new techniques. Indeed, the development of the measurement of colonial national incomes was in itself almost a path-breaking task, which was capable of yielding great dividends in knowledge of the economic structure and standards of the colonial territories, the limits of which I myself had learned to appreciate in working with Lord Hailey on his *African Survey* (Deane 1948, v).

Systematic quantitative research on economic potentials began in the British Empire only in the 1950s. Step by step, the qualitative studies of anthropology were replaced by the quantitative arguments of development economics. Institutionally, in the British context, the “Colonial Social Science Research Council” rose with these epistemic movements (Mills 2005). Further studies by Phyllis Deane, Alan R. Prest on Nigeria, and Alan Peacock on Tanganyika included the collection of data for the compilation of a Gross Domestic Product (GDP) for the African territories (Deane 1953; Prest and Stewart 1953; Peacock and Dosser 1958). However, all these studies retained a pioneering character. They all gave single figures on the volume of different economic sectors and also compiled sum totals of national products. But they also all strongly questioned the usefulness of such macroeconomic statistics for non-Western conditions. The statistical tools did not seem to be adequate for African studies, because they had been designed for relatively homogenous industrialized national economies like the USA or England. But the colonies represented a different social world.

4. Methodological Nationalism

There is a national bias in the macroeconomic statistics of the Millennium Development Goals. The fifty-three groups of numerical indicators that were set in place for monitoring compliance all referred to sovereign nations as their

basic entity. A methodological nationalism was built into the statistical survey of global conditions. Some authors even argued for statistical knowledge to have been a major driving force in instituting the nation as a predominant political concern in international governance post-1945 (McNeely 1995). In economic matters political nations were subject to a comparative order of knowledge. A universal structural norm of economic life and an assumedly shared outlook of development were set as standards in order to measure manifold historical experiences against each other. But despite their political usability such comparative inquiries met strong resistance within the statistical profession. As Alain Desrosières has pointed out, the “openly political” and the “purely learned” institutions working in the field of global statistics show quite different trajectories (Desrosières 2013, 13). While politicians were quick to use quantitative figures, the learned experts long stayed skeptical. At a conference of the International Statistical Institute (ISI) in Washington in 1947 scholars refuted the comparing of national incomes on academic grounds but held it important pragmatically. One expert said:

These figures have been produced and people use them. They will continue to be produced, and people will continue to use them. If we were starting afresh, I would have a great deal of sympathy with what has been said about not using a single figure, and not even producing one. But the way the thing stands now is that in every governmental problem where a multiplicity of regions or countries is involved, national income figures are used. [...] And every international organization that has been formed has used national-income statistics in one way or another. Therefore, I think the statistician cannot bury his head in the sand in this matter. He should know the practical politicians will use his results and probably will misuse them. And therefore I do believe that it is imperative to make the best single figure that is possible and to use a few very simple rules for its application (Gilbert et al. 1949, 270).

British and US economists hotly debated the possibility of numerically accounting for all sectors and segments of one nation’s economic life. The result from this academic discussion was a standardized “System of National Accounts” that was issued in 1952 by the United Nations Statistical Office and the Organization for European Economic Cooperation (OEEC 1952). This tool has since become the basis for national economic policy in all nations throughout the world. Of considerable importance is the fact that these macroeconomic statistics also became the basis for the new discipline of development economics. As early as 1944, economists like Kurt Mandelbaum or Paul Rosenstein-Rodan applied numerical arguments in designing development advice for relatively poor eastern European countries including Greece, Romania, or Poland (Rosenstein-Rodan 1944; Mandelbaum 1945).

Quantitative findings were very helpful for international politics, because they allowed for reducing complex economic interactions into a system of three interlocking tables that represented all incomes of the workforce, all outlays of the business companies and households and the sum-total of government

spending. National accounts formed a factual basis for central decisions concerning the allocation of scarce resources. According to this representation, poor countries regularly showed an underused rural workforce. And they also showed generally low levels of investment. Thus, within the new discipline of development economics, the rate of investment as measured against the total GDP became a core issue.

This is very clear in the first textbook on development economics that was ever published, W. Arthur Lewis' "Theory of economic growth" from 1955. The first sentence in his book is: "The subject matter of this book is the growth of output per head of population" (Lewis 1955, 9). Lewis continued: "'Growth of output per head of the population' is rather a long phrase, [...] Most often we shall refer only to 'growth' or to 'output,' or even occasionally, for the sake of variety, to 'progress' or to 'development'" (Lewis 1955, 9). From this concise definition of the main topic Lewis set out over a long and highly sophisticated argumentation to conclude that all development policies had to focus on investment quotas. He concluded that:

the central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 per cent to a 12 per cent saver – with all the changes in attitudes, in institutions and in techniques which accompany this conversion" (Lewis 1955, 226).

The main avenue to effect this change was to open up capital transfers in the form of development aid and foreign direct investment. Once large investment capital sums were available, they would trickle down, miraculously multiply and effect an equitable distribution of general gains in wealth – so ran the baseline of the new statistically minded development policy.

This specific mode of knowledge production, analysis, and policy advice was completely grounded in a statistical depiction of the nation. Indeed, the national body politic was reproduced and reified in all applied categories. Economic circumstances became identical with the nation and economic life was seen as a mechanical device that could be made more efficient by clever engineers in order to further a nation's strength. In this connection, Timothy Mitchell has spoken of the invention of the "economy" as a thing (Mitchell 1998). Such an objective vision materialized in a machine that was built out of tubes, valves and containers in London in the 1940s. The economist Bill Phillips constructed this technical array to represent the flow of economic wealth within a national economy according to the theory of John Maynard Keynes. The London Science Museum holds his accomplishment to humanity on constant display. The Phillips-Machine is a tool for governing social collectives. It visualizes a system of national accounts that produced out of the anonymous multitude of statistical instances the central position of an omnipotent planner.

Colonial administrators in East Africa never reached such a position. District officers in the Kenyan Coast Province, in the Highlands, or in Nyanza had to deal with a multitude of social collectives. On the ground, the logic of impe-

rial rule produced the notion of “tribes” that all had different ways of organizing economic reproduction. Some quantitative estimates were made, but local staff reported stark differences in attitudes towards work, agriculture, and family life (Cooper 1980). The rural-urban migration that was incised by the colonial regime further complicated the analysis (Ferguson 1999). Colonial statisticians thought of Africa not in the terms of nations, but saw a complicated network of tribal interaction that they had to administrate. To this logic, the statistical view of single developmental nations was a full contrast. It proved very attractive to African nationalist politicians at the moment of decolonization because such expert-driven economic policy could strengthen their domestic legitimacy as rulers across tribal difference. The global statistical view also promised to stabilize new relations of power with the former colonial overlords. The first generation of African leaders turned the national bias of statistics into a tool for the building of new nations (Speich Chassé 2008).

Unleashing national machines of development – as were visualized in the London Museum’s Philipps’ Machine – brought a new global imagination to the fore that made all socio-economic problems of the world appear as problems of national development. The Millennium Development Goals still stuck to this methodological nationalism by imagining a global developmental ranking of nations. In postcolonial Africa, these assumedly rational techniques of executing and legitimizing political power offered a way of instituting new nations that were materially inexistent. In the imagination of the heroes of African independence such as Kwame Nkrumah in Ghana or Tom Mboya in Kenya, political sovereignty necessarily had to be followed by major schemes of statistically rendering the body politic in view of national development goals (Speich Chassé 2009). But they needed a stable comparative framework in order to legitimize their claims. Following a technical internationalism, non-governmental, international and supranational bodies such as the International Statistical Institute (ISI), the many associations that gathered in Africa Hall in the 1960s, or the statistical division of the UN built up respective bases of knowledge (Speich Chassé 2011, 2013).

5. Conclusion

The Millennium Development Goals represent a new form of “global governance” that is working without formal government structures. In questioning their historical roots it seems relevant to ask which institutions issued those statistics through which global problems are increasingly being approached. As Ernst-Otto Czempiel and James Rosenau famously stated: “The concept of governance without government is especially conducive to the study of world politics inasmuch as centralized authority is conspicuously absent from this domain of human affairs” (Rosenau and Czempiel 1992, 24). Historians of

statistics have so far not very often studied cases in which central authorities were absent. But this is the main feature of global statistics.

Despite the ubiquitous proliferation of statistics that began with the end of the Second World War, no single center of calculation has emerged and no single government rules the world until today. After 1989, the legacy of a Pax Americana has gained ground in historical explanations. But such analyses are overly simplifying. The statistical check of the Millennium Development Goals depends on aerial surveys, the census of populations, and the accounting of potentials for economic growth. Neither the Soviet Union nor the United States of America can be held responsible for an order of global knowledge that emerged in the period of the Cold War. Rather, a planetary statistical framework came into existence that put the comparison of national numbers at its core. It epistemically strengthened at the same time the foreign policies of powerful industrialized countries and national self-determination against foreign domination in the new states of the Global South.

Comparative economic statistics were very important in turning the whole world into something readable. According to Hans Blumenberg, the phenomenal world is not openly accessible to modern knowledge production. It is not lying out there ready to be read, but must be processed in order to become so (Blumenberg 1986 [1993]). This means that, as historians, we can reconstruct the composition of whole sets of practices that were necessary in order to subject complicated phenomena to governance. Global economic inequality certainly is one such phenomenon that is not accessible without highly sophisticated tools of knowledge. The problem of development only acquired readability through the constant work of scholars like Phyllis Deane or W. Arthur Lewis, and through institutions like the United Nations in Addis Ababa.

With respect to global governance, the roots of this readability of the world date back to late colonial rule. Then the ILO and the League of Nations started compiling tables of comparative economic development. But this statistical worldview was still contested around 1960. In her account of one international conference at the Addis Ababa Africa Hall, Phyllis Deane singled out “international experts bravely grappling with slippery statistics” (Deane 1965, 422). In the years 1961-1962, the economist Wolfgang Stolper designed the first National Development Plan for Nigeria calling this task “planning without facts” (Stolper 1966). Deane’s research and the work by Prest and Peacock on Nigeria and Tanganyika had explored the limits of statistical transparency. However, today, we do not assume anymore these statistics to be slippery. With the UN statistical manual on a “System of National Accounts” (1952) and with the globalization of Keynesian macroeconomic theory post-1945 (Hall 1989; Fourcade 2009), a mechanical metaphor of the national economy became a reality. International bureaucrats strongly advanced this move, because for them seemingly objective indicators like the growth rate of the GDP per capita were an absolute necessity in order to reduce the complexity of the world. Thus, as of

the early 1960s, a new comparative statistical perception of the world became dominant. It was inherently anti-imperial because the concept of independent nations was its basic entity. It functioned without a clear-cut center of calculation (Latour 1987), and it still gave rise to the Millennium Development Goals.

In the age of imperial decline, statistics and development fostered a new interest in rendering global conditions rational and transparent. As the Millennium Development Goals show, this vision is still with us today. But the conditions of its emergence have become opaque. The main argument is that we need to investigate the technical history that made this simplified worldview possible. In doing so, further research seems necessary first into the history of colonial statistical surveys which found themselves locked in an epistemic dead-end around the year 1960. It might be helpful to focus on the uncertainties of units of analysis in this earlier period such as “tribe,” district, region, territory, federation, or Empire. Second, we have to investigate early political voices from the Global South who followed the promises of transparency. And third, the emergence of new international organizations like the United Nations is an important field of future research.

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