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Abstract: *»Goudsbloms Gesetz der drei Stadien: Die globale Ausbreitung soziokultureller Merkmale in der Menschheitsgeschichte«.* In several publications, Johan Goudsblom advanced a "law of three stages" concerning the spread of certain socio-cultural traits (x, y, z…) over humanity. In the *first* stage, *no* human society has trait x; in the *second* stage, *some* societies have that trait; and in the *third* stage, *all* societies have the trait. Important examples of such traits pertain to what Goudsblom has depicted as the great "ecological transformations" in human history: the control of fire, the domestication of plants and animals, and industrialisation. Other examples are metallurgy, writing, money, state organisation, clocks, and computers. This paper elaborates this model and explores its scope, validity, and usefulness for understanding long-term trends in human history. It discusses the model's theoretical implications (section 2), causal interconnections between socio-cultural traits that spread globally (section 3), explanations for the transition from the second to the third stage (section 3, which includes a brief discussion of Cultural Darwinism), and different mechanisms by which socio-cultural traits spread from some to more societies (section 4). Section 5 deals with the consequences of this spread for power relations between societies. Section 6 focuses on recent developments, including the digital revolution and the transition from the use of fossil fuels to the exploitation of other energy sources. The concluding section discusses briefly the scope and validity of Goudsblom's "law of three stages" in view of these recent developments.

Keywords: Johan Goudsblom, law of three stages, process model, social evolution, diffusion, cultural growth, competitive advantages, power resources, Cultural Darwinism, ways of spreading.

1.   Introduction

Eleven years ago, in the first issue of the journal *Human Figurations* (2012), Johan Goudsblom published an article on "Energy and Civilisation," in which he distinguished three phases in the formation of the fire regime: "In phase

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1, no human group had fire; in phase 2, some groups did; and in phase 3, all groups did. In addition to being a unique feature of human groups, it eventually became a universal human feature." And then he continued: "the same series of stages or phases was repeated in the successive formation of the next two major socio-ecological regimes: agrarian and industrial. At first none, then some, and eventually all human groups used the products of agrarian and subsequently, industrial work" (Goudsblom 2012).

Here we have, formulated in a short and almost offhand way, what may be called Goudsblom's Law of Three Stages. The quoted article in *Human Figurations* was not the first in which he proposed it; he had advanced it in 1988 in an essay in the Dutch journal *Amsterdams Sociologisch Tijdschrift* on "Long-term processes in the history of humanity" (Goudsblom 1988[1]), and later in a chapter of the book *The Course of Human History* (Goudsblom 1996). As he wrote in that chapter, the sequence of three stages is not confined to the major technological and ecological transitions of control of fire, domestication of plants and animals, and industrialisation. It also applies to "a variety of other institutions, such as writing, money, cities, or metallurgy" (Goudsblom 1996, 24). It is not difficult to add many more examples. State bureaucracies, legal systems, wheels, cars, textile clothing, sugar consumption, fire-arms, electricity, school education, modern sports, organised science, hospitals, telephones, clocks, computers: all these various institutions, techniques, artifacts, or customs were absent during most of human history, then existed in a limited number of societies, and then spread until they eventually covered all societies.

This model is typical for Goudsblom's work. In all his sociological writings, he aimed to formulate basic insights in an elegant way, and as clearly and succinctly as possible. This proposition is very simple, immediately understandable, while at the same time it is fundamental. Unlike Auguste Comte when he launched his "law of the three stages," Goudsblom did not call his proposition a "law." That would be too pretentious for him, and also misleading, since it would suggest a deterministic and ahistorical view of social reality, which he rejected. Like Norbert Elias, he regarded the term "law" as inappropriate for the social sciences, preferring instead terms like "model," "regularity," and "structured development." So, I am aware of deviating from Goudsblom (and Elias) in using the immodest term "law" for his thesis. I use it here in order to stress that this proposition refers to a regularity on the highest level of generality in social science, to recurring processes in a certain

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[1] An English translation of this paper is included in this HSR Special Issue, doi: 10.12759/hsr.48.2023.03.

direction throughout human history.[2] In the language of a scientific law it could be formulated as follows:

> Any socio-cultural trait x that is common to all human societies at any moment in human history is the result of a preceding development over three stages: in the first stage, no society has x; in the second stage, some and increasingly more societies have x; and in the third stage, as a result of this spread, all societies have x.

While most of these traits emerged and spread during the last ten or twelve thousand years (which is rather short in evolutionary terms), some very basic ones originated much further back in time. They include the learned capacity to make and use tools for food, shelter and clothing, communication through symbolic language, and also control of fire (Goudsblom 1992; Wrangham 2009). The development and spread of these traits was part of a process of hominisation, of becoming human, extending over hundreds of thousands of years, in which socio-cultural changes interacted with biological-genetic changes, resulting in the emergence of our species, *Homo sapiens*.[3] Since then, socio-cultural changes among humans have taken the upper hand, occurring largely independently from genetic changes and at a much faster pace (cf. Goudsblom 2000, 17-20).

2.   Theoretical Implications

Though Goudsblom's "law" may sound quite self-evident, it expresses a distinct position in the human sciences. It implies that human history is structured, that it exhibits regularities, such as long-term developments in a certain direction in which successive stages can be distinguished. History is not an irregular, chaotic sequence of actions and events which can only be described and understood in the form of stories, as many historians still maintain. Nor does it merely consist of an endless variety of social changes that are bound to specific places and time periods, as is often assumed among sociologists and anthropologists. Rejecting such positions of narrativism or,

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[2] However, I am aware of the problematic connotations of the term "law" and use it therefore only sparingly here. In line with Goudsblom (1996, 21, 24), I more often speak of the "model" of three stages. The term "model" is used here not in the sense of a logical elaboration of a set of simplifying assumptions (as is the usual meaning in economics) but in the sense of a stylized description of a recurring empirical regularity. Other terms that I use to refer to Goudsblom's proposition are "sequential scheme" and "sequential order."

[3] A process of "gene-culture coevolution" (Wilson 1998), or "culture-gene coevolution" (Henrich 2016). Estimates of the first appearance of *Homo sapiens* or, in different terms, of "modern" or "fully modern" humans vary strongly, from more than 200,000 to just 70,000 years ago. This variation in empirical assessments and terminology reflects not only scarcity of data but also the gradualness of this process, which makes it difficult to define precise borderlines between successive species or subspecies of humans (Christian 2015; Ehret 2015).

at best, "developmental agnosticism,"[4] Goudsblom places himself in the tradition of social developmentalism or evolutionism, represented in the 19th century by such diverse thinkers as Auguste Comte, Karl Marx, Herbert Spencer, and Edward B. Tylor.

Unlike the social evolutionists of the 19th century, however, Goudsblom did not assume that human history follows a pre-determined path toward a predictable end stage. In line with Elias, he tried to do justice to the vagaries and variations of human history while at the same time seeking formulas to clarify and explain overall regularities. In his own words, he aimed to synthesize "chronology," the sequential description of historical facts, and "phaseology," the distinction of phases or stages that show the "logic" in long-term social processes (Goudsblom 1996, 17-21). In his model of three stages, the transition from the first to the second stage, from "no societies have trait x" to "some societies have trait x" is largely unpredictable. On the other hand, the transition from the second to the third stage, from "some" to "all" societies have x, is structured, referring to processes with a high degree of continuity and predictability. Thus, the transition from gathering and hunting to cultivating plants and keeping animals that started around 11,000 years ago was not the result of any regular social dynamic; it depended on specific ecological, demographic, and socio-cultural conditions, such as, most basically, global warming after the last Ice Age. But once this transition had begun in some regions of the world, a process of agrarianisation with huge social consequences took off, which extended in the course of time to more and more societies, larger and larger areas, and growing proportions of the world population. The process continues into the present time, in which the last remaining groups of hunter-gatherers are about to disappear. Something similar can be said about the rise and extension of mechanical industry. Its start in England in the late 18th century depended on a conjuncture of specific socio-cultural, socio-economic, political, and ecological conditions (among them the abundant availability of coal), but once industrialisation had begun, its scope and global impact grew precipitously, until, as we can say for the present age, the whole world population had become in some way dependent on industrial production.

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4   Goudsblom (1988, 20; 1996, 28) derived the expression "developmental agnosticism" from Karl Wittfogel. Narrativism can be regarded as a name for the dominant approach in conventional historiography (explicated by German historians and philosophers in the 19th century, who contrasted the "idiographic" humanities with the "nomothetic" natural sciences), though it was advocated with this label only since the 1970s-1980s as a counter-response to efforts among historians to integrate historiography with the social sciences (see, e.g., Fay, Pomper, and Vann 1998). A vocal representative of anti-developmentalism in sociology was Robert Nisbet (1969, 1970), who has been criticized by Goudsblom (1977, 135-6). Even in the subdiscipline of "historical sociology," there is widespread skepticism with respect to developmental or evolutionary approaches. This is exemplified by Adams et al. (2005), a collection of essays representing new trends in this field, which Goudsblom (2007) sharply criticized.

Goudsblom's proposition also differs from classical social evolutionism in that it implies a rejection of the idea that all human societies sooner or later go through the same stages of development. The most relevant unit for describing and explaining long-term social developments and distinguishing stages in these developments is not a separate society, but the global figuration of societies comprising humanity as a whole. No separate society went through the stages of hunting-gathering, agrarian, and industrial. These historical stages (not to be confused with the recurrent stages of the three stages model) refer to types of societies or regimes that were successively dominant in the world and decisive for the course of human history as a whole. With the spread of, successively, the agrarian and the industrial regime, the very nature of human societies, their boundaries, and their interrelations changed profoundly. It is only by recognizing this that "chronology" and "phaseology" can be meaningfully combined. There is no opposition, in this view, between "evolution" and "diffusion"; on the contrary, diffusion – the spread of cultural traits from some societies to others – is fundamental to social evolution, or long-term social development (Goudsblom 1996, 15-7, 29-30).

3.   Chains of Causal Connections

The socio-cultural traits that spread according to the sequential scheme of three stages did not emerge independently from one another, but in chains of causal connections, in which certain traits were necessary but not sufficient conditions for the emergence of other ones later in time. As Goudsblom (1996, 22) remarked, control of fire was a precondition for the development of agriculture, and both control of fire and agriculture were necessary conditions for the rise of mechanical industry. Other features have a place in this causal chain as well. Metallurgy, for example, could only develop on the basis of craft specialisation in agrarian societies, and was an obvious precondition for the Industrial Revolution. The large-scale use of electricity, which started in a later phase of industrialisation, is basic to the great transformations that we witness today: the digital revolution, and the beginnings of an energy transition from fossil fuels to other energy sources.

Socio-cultural traits that spread over the world are not only interconnected in chains of chronology and causality, but also add up to each other. The emergence and spread of a new socio-cultural trait usually did not eliminate older ones. As Goudsblom (1996, 22-3) wrote, "The emergence of agriculture did not put an end to the domestication of fire, nor did the Industrial Revolution put an end to agriculture." Nor does the current digital revolution put an end to mechanical industry, we may add. Apart from specificities, all the important socio-cultural traits that spread over the world in the course of

human history, according to the three stages model, still function in the present age. All, or almost all, societies today are dependent on techniques to control fire, agriculture, mechanical industry, and computer technology; and they also function with writing, bureaucratic organisations, legal systems, school education, money, metallurgy, wheels, cars, clocks, textiles, television, smart phones, *et cetera*. Human history, we may say, is a history of cultural growth, an accumulation of innovations.

This additive accumulation even occurs in cases where innovations are intended to replace existing practices and actually reduce their significance. While the domestication of plants and animals very gradually marginalised gathering and hunting, these older ways of food acquisition did not disappear. Even in today's most "advanced" societies, they are still practiced – now mostly as leisure activities, but also with the purpose to acquire highly valued food or other useful goods – and one type of hunting, namely fishing, has remained a significant branch of the food industry. Something similar can be said about changes in communication and transport. Writing was an addition to, not a substitute for, oral communication. The printing press and, later, the typewriter did not put an end to handwriting, nor did the invention and subsequent explosion of digital communication put an end to writing on paper and printing. And while trains and motor cars have increasingly been substituted for horses and horse-drawn carriages since the 19th century, these older means of transportation did not disappear, as they continued to be used for leisure, sports, ceremonies, and tourism. In all these cases too, new traits added up to older ones rather than replacing them completely. This process of cultural accumulation is immediately connected with a long-term trend in human history identified by Spencer, Durkheim (1964 [1893]), and other classical sociologists: increasing division of labour, functional differentiation, or, in Goudsblom's (1996, 27) words, "specialization as to social functions."

4.   From Some to All Societies: Explaining Global Spread

Why do certain socio-cultural traits, once they have emerged, spread to more and more and, eventually, all societies? What explains, in other words, the apparently inevitable, unstoppable development from the second to the third stage? The basic answer advanced here is that socio-cultural traits spread in this direction because they bring competitive advantages for individuals and groups in the societies in which they function. Crucial socio-cultural traits that give such advantages can be conceived as power resources in the wide sense of the term, that is, as means of control that enhance the survival

chances of members of a society and their collective power in relation to other societies. Following Elias (2012b, 151-2), we may distinguish three basic controls: control of non-human nature (technology), control of interpersonal relations (social control), and control of individual impulses (self-control). As Goudsblom (1992, 11, 41) illustrated in his book *Fire and Civilization*, these three types of control are interconnected:

> As a part of the apparatus by which people control nature, the control of fire has always been and will always continue to be enveloped in social control and self-control. [...] As people succeeded in stoking increasing numbers of larger and hotter fires, they needed tighter regulation of their social relations and individual impulses in order to keep those many fires under control.

By developing and improving techniques of fire control, some human groups enhanced their power in relation to non-human nature and other human groups. These other groups were therefore either eliminated or forced to take over the techniques of fire control in order to survive. Something similar can be said about the spread of socio-cultural traits much later in time, including technologies of agriculture and mechanical industry.

The mechanism by which power-enhancing socio-cultural traits spread to more societies and larger populations is comparable with the Darwinian mechanism of natural selection by which species evolve. As scholars from different disciplines have argued (for example, Richerson and Boyd 2006; Mesoudi 2011; Hofhuis 2022), the basic principles of Darwin's evolutionary theory also apply to the dynamics of socio-cultural change. Like biological-genetic changes in living nature, socio-cultural changes among humans can be described and explained in terms of variation, competition, selection, and reproduction. Some new cultural traits brought about by cultural variation turn out to be competitively advantageous (enhancing chances of power, survival, and well-being) and, as a consequence, are selected for retention, reproduction, and spread within and between societies. This Darwinian mechanism works on different social levels, ranging from small groups to large figurations of interconnected societies.[5] Selection works in favour of socio-cultural traits that bring competitive advantages, and of groups, organisations, and societies that develop, reproduce, and adopt these traits.

There is, in principle, nothing wrong with applying this Darwinian logic to socio-cultural processes, but the question is how strong its explanatory power is and how far the analogies between biological and socio-cultural evolution go. According to evolutionary theorists, cultural traits (or "memes" in Richard

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[5] Darwinian evolutionary ideas have been used in particular to explain the dynamics of formal organisations, or, more specifically, private companies involved in capitalist market competition. See, e.g., Hannan and Freeman (1977), who propose a "population ecology perspective" on organisation-environment relations, inspired by the work of population biologists.

Dawkins's wording[6]) are comparable with genes, just as human groups are comparable with biological organisms as the respective "bearers" of those entities. There are, however, obvious differences between genes and biological organisms on the one hand and cultural traits and human groups on the other. Human groups or societies are, at most, only "organisms" in a metaphorical sense; they do not have "natural" boundaries (as they usually interpenetrate and have overlapping memberships), they do not come into existence through sexual reproduction, they do not have coordinating brains, and parts of them (individuals, subgroups) usually live on when they dissolve. While genes are the basic elements in the formation of individual organisms, cultural traits are acquired after birth and change in the course of individuals' lifetime under the impact of new social experiences. Unlike genes, cultural traits do not only contain "instructions for behaviour" but are also the immediate result of behaviour – of collective learning through social interactions. Cultural variation, in contrast to genetic variation, is therefore not random in relation to behavioural outcomes, but dependent on human needs, goals, intentions, emotions, motivations, and expectations, which in turn are shaped by varying and changing social conditions. For these reasons, I conclude – in line with Goudsblom – that it is only to a limited extent that (neo-)Darwinian evolutionary theory can explain processes of socio-cultural change. In order to do justice to the relative autonomy and the specific characteristics of these processes, social scientists have to construct their own explanations rather than fully rely on this theory, even if they draw insights and inspiration from it.[7]

For an explanation of the sequence of three stages it has also to be kept in mind that not all socio-cultural traits that give competitive advantages spread to all societies. The transition from the first to the second stage is a necessary but not sufficient condition for the transition to the third stage. An obvious reason why the spread of a trait remains limited is that it is tied to specific ecological conditions. Thus, the building of igloos, which was based on the accumulation of very specific technological knowledge, was a useful adaptation to the harsh conditions of the Arctic, as it enhanced the survival chances of groups who lived there, and may have given them competitive advantages in relation to other groups in this region (Flannery and Marcus 2012, 21-4; Henrich 2016, 114-6, 180-1, 355). But outside the Arctic, these snow houses were not very practical, if they could be built at all. They continued to be used as long as the groups living in this region were highly isolated from the rest of the world; when they became more connected with wider social networks, alternative dwellings became available and igloos lost their survival functions. So the development in this case is: first, no societies with igloos; then a stage of some societies with igloos; and then a third stage in which there are again no societies with igloos. This pattern can be found

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6   Introduced in the last part of his *The Selfish Gene* (Dawkins 1976).
7   As I have previously argued more extensively (Wilterdink 2003, 62-3; 2006; 2009).

for many if not most local socio-cultural traits. They lose their functions and disappear when networks of human interdependence extend and groups with these traits become part of, and more dependent on, these larger networks and less directly dependent on local resources.

Another reason why a socio-cultural trait that gives competitive advantages does not spread to all societies is that it is replaced by another, more effective one before it reaches this third stage. An example is the production and use of bronze weapons from about 3,000 BCE with which warrior groups in the Middle East, North Africa, South Eastern Europe, and China extended their power. They might have conquered eventually the whole world with these weapons if not another, much more effective, much less costly, and much more available metal was put into use from about 1,200 BCE: iron. The change from bronze to iron weapons marked the transition from the so-called Bronze Age, which remained geographically confined, to the Iron Age, which became global and is still our age. The development of bronze weapons (as in the case of igloos, but on a much larger scale) was cyclical rather than progressive: first, no societies, then some, and then again no societies had them.

The socio-cultural traits that do conform to the three stages model are, then, only a selection of all the power-enhancing innovations that humans have made in the course of time. Yet this selection is quite large and crucial for the course of human history. These traits spread over the world because they give competitive advantages, are not bound to specific ecological conditions, and are resistant to replacement.

To these three conditions an obvious fourth one has to be added: socio-cultural traits can only spread among societies when members of these societies have contacts with one another. The more frequent these contacts are, the greater the likelihood of spreading. When groups of people started to migrate from Africa to other continents, including Australia and America, geographical distances between human societies grew. Large distances and natural barriers were, for a long time, insurmountable obstacles to social contacts beyond certain regional confines and, therefore, to the spread of socio-cultural traits to all human societies. Societies in different parts of the world developed very different cultures as they adapted to widely diverging ecological conditions. This tendency was counteracted – particularly since the beginnings of agriculture and animal husbandry – by cumulative improvements in transportation and communication, ranging from trained horses and camels, wheeled cars, and sailing boats to automobiles, airplanes, and mammoth tankers, and from smoke signals, written words, and carrier pigeons to mobile phones and computer networks. All these means of transportation and communication were among the power-enhancing, competitively advantageous socio-cultural traits that spread from some to more societies, and at the same time instruments that enabled increasing numbers of people to have increasingly intense contacts over increasingly large distances, which therefore facilitated the spread of other socio-cultural traits as well (cf.

McNeill and McNeill 2003). It was particularly through the European expansion from the 15th and 16th centuries that groups of people living far away from one another were increasingly incorporated into one, highly unequal, figuration of interdependent human societies encompassing the world population as a whole. From then on, socio-cultural innovations that originated in one or a few societies could spread to all societies with increasing ease and pace.

5.   Ways of Spreading

One question concerning the explanation of the global spread of socio-cultural traits has yet to be answered: *how* did these socio-cultural traits spread? Or, in more theoretical terms: what are the main mechanisms of spreading? I will try to answer this question by taking the second and the third of the great technological-ecological transformations identified by Goudsblom, the transition from hunting and gathering to agriculture and the emergence and spread of mechanical industry, as primary cases. On the basis of these and a few additional cases, I distinguish three ways in which socio-cultural traits spread over groups of people and larger areas: through a) adoption, b) enforcement, and c) population replacement.

a) The first, most obvious way of spreading is through *adoption* or *emulation*: people adopt a trait from other people with whom they have contact because they recognise the (or some of the) advantages that it entails. This does not necessarily mean that they like the new trait. It may be that they feel strong pressures to adopt it because of changing living conditions. It is now widely assumed among historians and anthropologists that hunter-gatherers who went over to agriculture did so out of necessity rather than positive preference: food scarcity, population pressure, and/or threats from groups of agriculturalists drove them to give up their old ways and make the transition to farming, which tended to bring stricter social regulation, a heavier work-load, and new health risks.[8]

The early adopters of mechanical industry on the other hand – entrepreneurs, investors, technicians – were positively motivated, we may assume, by expectations of profits, prestige, and power, as they followed the example of successful precursors. Yet they could also feel the pressure of changing market conditions: when they did not invest in the new machines they might lose the competition with other firms and go bankrupt. Important for the spread of mechanical industry were also political power-holders and government officials who took efforts to stimulate industrialisation in their country because they

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[8] Recent popular overviews of human history, such as Harari (2011, esp. 87-109), emphasize such negative effects of the transition to agriculture on human living conditions. However, several studies indicate that these effects have been highly variable, and not always merely negative (see, e.g., Roberts 2015).

regarded it as a condition for national power and prestige in the competition with other, rival, states.[9]

In the adoption and spread of cultural traits, considerations of status or prestige often play a paramount if not primary role. People in general are inclined to copy behaviour from others to whom they attribute authority and superior status. Cultural traits thus tend to spread – both within and between societies – from dominant high-status individuals and groups to people with less power and prestige, and they are adopted not only for "material" reasons but also because they serve expressive and status functions.[10] Traits that exclusively or predominantly have these latter functions – such as social interaction styles, manners of speech, or dress codes that are associated with "high" status – bring competitive advantages in so far as they strengthen the status position of those who adopt them.[11] Such traits, however, also serve to express and bolster up distinctive collective identities, which may hinder their spread from one to another society.

Yet in modern times increasing numbers of people in different parts of the world took over certain Western standards of behaviour. This tendency reflected not only growing Western dominance, but, paradoxically, also growing aspirations to resist and revert Western dominance. Thus, people in Asian and African societies who adopted Western clothing in the 20th century thereby often expressed their modernizing ambitions and anti-colonial stance, distinguishing themselves from groups in their own society considered traditional and conservative.[12]

b) A second way in which socio-cultural traits spread is through *enforcement*. This occurs when members of a relatively powerful society impose certain rules and practices on members of another, less powerful society by coercion. The prime example is the extension of state control through territorial conquests. States were formed in agrarian societies when groups with special power resources – warriors and priests in particular – differentiated themselves from the rest of the population, set up a government administration, ousted rules, and required payment of taxes or tributes from the inhabitants of the state territory on the basis of their disposition of important means of violence (cf. Mann 1986). Through violent conquests, more and more people were subjected to state rule, and some states grew into vast empires. When these large states or empires collapsed, as happened from time to time, state institutions were destroyed but

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[9] As exemplified by the industrialisation policies of Prussia-Germany in the second half of the 19th century, Japan after the Meiji Revolution of 1868, the Soviet Union after the Revolution of 1917, China after the communist victory in 1949, and South Korea since the 1960s.

[10] Conceptualised as the "trickle effect" (Fallers 1954) or, in German, "gesunkenes Kulturgut." It is a central theme (without the use of these terms) in Elias's (2012a [1939]) work on the civilising process.

[11] Or, in other terms, their social and symbolic capital (cf. Bourdieu 1991).

[12] This was, for example, the case among nationalist leaders in the former Dutch Indies who fought for Indonesian independence (Gouda 2007, 76).

did not disappear altogether, and were re-established in different, sometimes more effective forms on a smaller scale. Competition between smaller entities could subsequently lead again to the formation of larger entities. This happened, for example, in Europe after the "feudal" Middle Ages (Elias 2012a [1939]; Tilly 1990). Some European states established colonial rule outside Europe, thereby exporting parts of their social institutions and culture to these other regions. In the long run of world history, Goudsblom's law of three stages clearly applies here. During the greater part of human history, all societies were stateless; then, some societies developed state control and state institutions; and today, people in all societies are, at least formally, subject to state authority.

It was also partly through enforcement that mechanical industry spread and extended its impact over the world. Members of industrialising state-societies in the 19th and 20th century forced people in other societies to adapt to the requirements of industrialisation by extending and intensifying colonial rule and dictating the conditions for trade and investment. While industrial technology and production spread only slowly and to a limited degree to most societies outside Europe and North America, these "non-industrial" societies were increasingly incorporated into a global industrial system with an international division of labour, in which they functioned as suppliers of raw materials and sales areas for industrial products (cf. Wallerstein 1979). With Goudsblom (2002a, 42-6), we may speak of an industrial "socio-ecological regime" on which all people in the world became dependent. In recent decades, this dependency has only increased, in spite of the shrinking industrial work force in rich countries due to automation and relocation of labour-intensive industries. In these so-called "post-industrial" societies, manufacturing industry has become less visible, but not less important.

c) A third, even more violent and nasty way in which socio-cultural traits may spread is through *population replacement*. This occurs when groups of people who dispose of power-enhancing traits move to other areas, where they kill or drive away groups of the original population. In this way agriculture has spread in various regions. At the root of these collective migrations was population growth, which was in general much higher among agriculturalists than among hunter-gatherers.[13] This led to increasing population densities, followed by increasing land scarcity. This in turn pushed groups of farmers to move to new territories that were uncultivated but often inhabited and exploited by hunting-and-gathering groups. In successive waves of collective migration, agriculture thus spread from Asia to Europe. It is not quite clear to what extent farmers' groups replaced groups of hunters-gatherers by annihilating them or pushing them out, or mixed with them, or induced them to adopt agriculture. Yet archaeological, linguistic, and genetic research has established that migration and at least partial population replacement have been crucial in the spread of agriculture and animal

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[13] Not only because agriculture allowed for much higher population densities, but also because it transformed patterns of living and food consumption in such a way that it unintentionally led to higher birth rates.

husbandry throughout Europe between 7,000 and 4,000 years ago (Whittle 2015). The invading farmers and pastoralists were usually more powerful than foraging bands because they were in greater numbers, cooperated in larger groups, and disposed of more effective weapons. Similar processes of extension of agriculture took place in other regions, such as South-East Asia (Diamond 1997, 102-3, 334-53).

More recent waves of this kind occurred as part of the European expansion from the late 15th century. The European conquest of the Americas after Columbus's first voyage in 1492 brought population replacement on an enormous scale, as untold numbers of native Americans died from violence and mortal germs, and equally impressive numbers of Europeans and enslaved Africans entered the continent. Whereas existing agrarian societies in America, such as the Aztec and Inca empires, were destroyed by this invasion, agriculture was extended to areas inhabited by native foragers, which were occupied by European settlers and transformed into fields for cultivation and pasture. The last huge wave of agrarianisation of this type was brought about by the British colonisation of Australia starting in the late 18th century, where the native population of hunting-and-gathering groups was strongly reduced,[14] to be replaced and vastly outnumbered by immigrant farmers and city-dwellers.

My thesis is that all socio-cultural traits that went from the second to the third stage, from "some" to "all" societies, spread through adoption, enforcement, or population replacement, or a combination of two or three of these mechanisms. Combinations of various kinds have been quite common. Thus, as noted, the extension of agriculture from the Middle East to Europe involved both population replacement and adoption under pressure. The extension of agriculture in the Americas after the European conquests combined large-scale population replacement with brute enforcement, particularly where people from Africa were put to slave labour on plantations.

Not all enforcement is directly based on physical violence, however. It may consist of strong social pressures that leave no choice but to adapt to changing social conditions. Such *forced adaptation* usually involves adoptive practices in which participants learn new things that they regard as advantageous. The spread of literacy and formal education within and between societies is an example of a process in which enforcement and adoption are mixed in ways in which they are hard to distinguish.

Another example of such a process, on which Goudsblom (2001) wrote an interesting and illuminating essay is the global spread of standardised time (cf. also Elias 1992). The three stages model clearly applies here: first, there were no societies in which the flow of time was ordered into, and measured by, precisely defined time-units; then there were some societies with such a time-ordering; and now (virtually) all societies have such ordering. Moreover, all present-day societies share the same system of time-ordering, in which a day-and-night cycle

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14   From a population size of around 300,000 at the start of European settlement to 60,000 in 1921 (Diamond 1997, 319).

is divided into 24 hours, one hour into 60 minutes, and one minute into 60 seconds. This numerical system goes back to the city-state of Babylon at the height of its power in the second millennium BCE, and spread as a device for time-measurement among other power entities, including Egypt, Greek city-states, the Roman empire, and the Christian Church. A next major step was the invention of the mechanical clock around 1330 CE, which measured each hour (and minute and second) as always exactly the same amount of time, independently from changes and variations in daylight time. This system was first used in European monasteries and cities, where tower bells struck regularly at every hour. It was made more precise and more widely applicable through subsequent inventions such as the pendulum clock and the spring-driven watch (Boorstin 1991, 46-121). From the 15th century, the system spread over the world, reflecting European power expansion. In 1883, at the Meridian Conference in Washington D.C., it was decided to divide the world into a number of well-defined time zones, with uniform clock time within each zone and fixed differences between them. This global standard with some modifications was fully implemented in the course of the 20th century. As a result, people everywhere at any moment are able to know now exactly "what time it is" not only in their own place, but for any place in the world.

In this case too, the trait tended to spread because it was a power resource that gave competitive advantages to people who used it. Precise time-ordering with the help of clocks enabled people to plan and coordinate activities more effectively. It was, as Max Weber (1930 [1904-5]) noted, a central feature of expansive modern capitalism. It spread within and among societies because its advantages were recognised, but also because people – in their role of, for example, industrial worker, bureaucratic employee, or train traveler – were forced to conform to the strict time regulations that it implied; a coercive and self-reinforcing "time regime" (Goudsblom 2001).

This case also illustrates that a socio-cultural trait that spreads to more and more societies is not necessarily the most efficient one. Measuring time in terms of 24 hours in a day, 60 minutes in an hour, and 60 seconds in a minute is not very efficient as it fares badly with the decimal system used for most calculations. Yet it was maintained and expanded because it originated in dominant centres, people got used to it, and pressures for standardisation over larger areas were strong. Something similar can be said about other instances of global standardisation, such as the order of letters on typewriters, and the spread of English as the global *lingua franca* from the middle of the 20th century (cf. de Swaan 2001).

6. Changing Power Inequalities among Human Societies

What are the consequences of the spread of socio-cultural traits among human societies for global power inequalities? The model of three stages suggests a general answer: first, when an important power-enhancing socio-cultural trait originates somewhere and spreads to more societies, power inequalities between societies increase; but when the trait further spreads and eventually encompasses all societies, power differences between them decrease. Thus, while agriculture created large power differences between (and within) societies, its subsequent spread among the world population meant that, after some point, it became less significant as a differentiating power base. Something similar could be said about the rise and spread of mechanical industry (cf. Goudsblom 1992, 166).

Actual history has been more complicated, however, than can be summarized in such generalisations, and it is not difficult to find reasons for that. First, the *degree to which* a society disposes of a power-enhancing socio-cultural trait may vary strongly. Thus, while virtually all present-day societies are literate to some extent and have access to industrial and digital technological knowledge, they are also very unequal in these respects. Second, power-enhancing socio-cultural traits are not constant, but change in the course of time. Or, to put it differently, the name for one socio-cultural trait, such as "agriculture" or "mechanical industry," actually covers a large variety of more specific traits that emerge, and sometimes disappear, in the course of time. Thus, successive innovations in agricultural techniques raised the productivity of cultivated land, and societies at any moment in history differed strongly in the degree to which these innovations had been put into practice. A third reason why the spread of a power-enhancing socio-cultural trait does not lead automatically to a long-term diminution of power differences between societies is that, in the meantime, new power-enhancing traits may emerge which give rise to new power inequalities. This has happened again and again in human history.

The tendency of given power resources to spread among wider social figurations is itself a mechanism of equalisation, but it is counteracted by another tendency: one of selective and self-reinforcing power accumulation, which means that relatively powerful groups have better chances to accumulate power resources and privileges and, as a consequence, to enlarge the differences in power and privilege with other groups.[15] As these two mechanisms work in opposite directions – both within and between societies – it is impossible to say in the abstract whether power equalisation or disequalisation is the dominant trend (cf.

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[15] This has become known among social scientists as the "Matthew effect" or "Matthew principle," formulated by Merton (1968) to illuminate the unequal allocation of status among scientists. The same logic is at work in what Elias (2012a [1939], esp. 301-11) has called the "monopoly mechanism."

Wilterdink 2021, esp. 28-9; Wilterdink and Potharst 2001, 20-4). The three stages model in itself cannot provide a basis for general propositions on this matter, yet it may be helpful in analysing and explaining actual changes in power inequality structures.

7.   Recent and Current Trends

This final section before the conclusion deals, very briefly, with recent and current developments that can be related to Goudsblom's law of three stages.

The first thing to be noted is an enormous *acceleration* of the pace with which new socio-cultural traits spread over the world. While it took more than 10,000 years for the agrarian regime to cover all human societies, the industrial regime needed less than 200 years to penetrate into the remotest parts of the globe. Thus industrial firms succeeded in finding consumers for their products in all inhabited parts of the world. Motor cars and motorbikes, cameras and record players, radio and television sets, electric lamps, matches and lighters, vacuum cleaners, washing machines and refrigerators, central heating and air-conditioning, canned and frozen food, soft drinks, plastic garden chairs, ball pen, cookers and microwaves, personal computers and smart phones – all such amenities of modern life have become available everywhere, including the poorest countries, as every Western tourist staying in a "good" hotel in such a country can observe. The model of three stages is valid for all these goods, with a very short time-span between the second and the third stage. What distinguishes poor from rich countries today is not the absence of these goods but their relative scarcity. Provisions such as medical care fall short to the standards in rich countries (as is illustrated in recent years by the large international inequality in the extent and quality of vaccination against COVID-19), and most people in poor countries cannot afford to buy consumption goods that are considered normal or even indispensable in rich countries. It is this kind of deprivation that defines the poverty of poor countries today as well as the poverty of a minority of the population in rich countries.

For the past few decades we may speak of a double acceleration, an acceleration of the acceleration, in the spread of socio-cultural traits over the world. This happens under the impact of what is called the ICT, computer, or digital revolution. The three stages model is valid here too. From the United States, the main centre of innovation, the new technologies spread very quickly to other countries. Computer use and digitalisation came to be regarded as indispensable for communication and information, organisation and administration, production and finance, science and technology, military power and national strength as well as entertainment and personal relations. A global digital regime – with highly unequal outcomes – has emerged within less than half a century, not

as a substitute of, but in addition to, the fire regime, the agrarian regime, and the industrial regime.

As the term "world-wide web" indicates, digitalisation stimulated hopes for global communication and cooperation that would make state borders irrelevant. Actual developments have been very different, as we realize now every day. Like industrialisation in the 19th century, computerisation has become a focus of competition between powerful rivaling states. Huge investments in the development of Artificial Intelligence are made by China, the United States, and also the European Union, whose leaders are afraid of lagging behind. And a pernicious new arms race is going on: a race for weapons of attack and defense in cyber wars.

Another momentous transformation has only just begun: the transition from burning fossil fuels to the exploitation of other energy sources. This is, according to most experts, an urgent necessity for preventing or at least mitigating disastrous climate change. If and when this hoped-for transition is realised, the "socio-ecological regime" of the Industrial Era based on fossil fuels will come to an end.

However, this transition cannot, does not, and will not take place according to the logic of the three stages model. It is not primarily driven by specific groups seeking competitive advantages in relation to other groups (even if such motives do play a role), but by the definition of a global problem for humanity as a whole that requires global solutions. The most influential and authoritative definitions of the problem are formulated by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations, founded in 1988, in which experts from dozens of countries cooperate to produce reports on tendencies of global warming, its causes, and its consequences. Main steps taken until now to reduce the emission of CO_2 and other greenhouse gases by substituting "sustainable" energy sources for fossil fuels are not located in one or few particular, territorially defined societies, but rest on communication and cooperation between numerous scientists, technicians, entrepreneurs, investors, politicians, and government officials in various places spread over the world. Important further moves in this direction will probably not take the course of a spread from some to more and, eventually, all societies. The actual and expected energy transition, in sum, does *not* clearly conform to the model of three stages.

What does this tell us about the validity and applicability of this model in general? In the concluding section I will enter very briefly into this question.

8.   Concluding Remarks

The three stages model presupposes that humanity consists of distinguishable societies, that is, of relatively large, relatively independent, comprehensive, multifunctional groups each of which consists of interrelated smaller groups and

inhabits a certain geographical area. Cultural innovations start in one or, at most, a few societies, and spread from there to other societies.

While the idea of the territorial differentiation of humanity into separate "societies" is problematic for any period in history – as these entities do not have sharp and fixed boundaries, often overlap, and do not exist independently from one another – it has become *more* problematic for recent times. Processes of globalisation, of extension and intensification of world-wide interdependencies, have advanced to such a degree that we may speak now of one world society comprising humanity as a whole (cf. Goudsblom 1992, esp. 207; 2002b). It is a highly differentiated, highly unequal, and highly divided world in which conflicts – including territorial conflicts between national states – abound. Yet it is also a world in which the awareness of shared problems for humankind has grown and in which solutions for these problems increasingly depend on communication and cooperation between numerous individuals and organisations located in various countries, regions, or territorially defined "societies." The transition from burning fossil fuels to the exploitation of other energy sources is a case in point. To the extent that humanity is developing, and continues to develop, in this direction of a world society, Goudsblom's "law of three stages" tends to lose its validity.

Goudsblom would make no objections to this conclusion, I think. As I remarked earlier, he regarded the term "law" as inappropriate for the social sciences, since it would suggest a timeless, immutable truth beyond history, which was contrary to his whole way of thinking. So to say that his law, model, proposition, or scheme of three stages is time-bound and not universal, is fully in line with his theoretical position.

As I have tried to show here, Goudsblom's law of three stages provides a useful framework to describe, interpret, and explain a variety of long-term developments and to illuminate processual regularities throughout human history. It is a challenge for empirical research to see to what extent and in what respects it is still useful for understanding current trends.

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