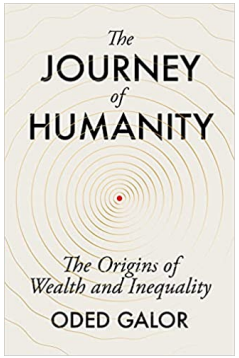
The Journey of Humanity:

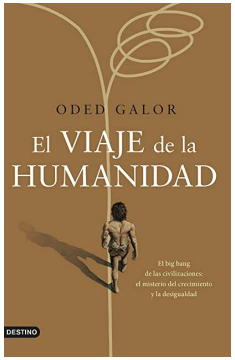
Roots of Wealth and Inequality

Oded Galor

Caucus, Hindu College

February 10, 2025


The
JOURNEY
of
HUMANITY
The Origins of Wealth and Inequality
ODED GALOR


ODED GALOR
El VIAJE de la HUMANIDAD
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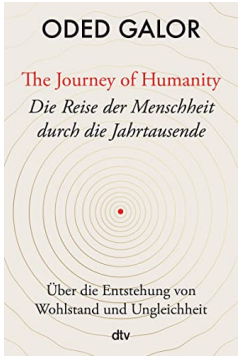
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The Journey of Humanity
Die Reise der Menschheit durch die Jahrtausende
Über die Entstehung von Wohlstand und Ungleichheit
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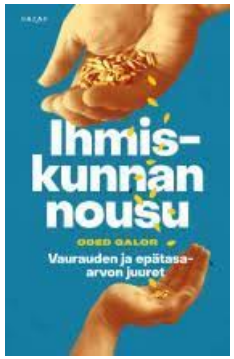
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ODED GALOR
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A
JORNADA
da
HUMANIDADE
As Origens da Riqueza e da Desigualdade
ODED GALOR


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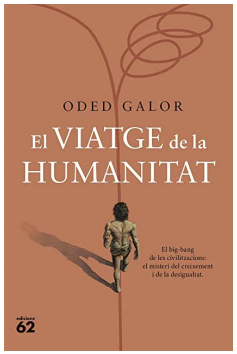
İNSANLIĞIN
SERÜVENİ
ZENGİNLİĞİN VE EŞİTSİZLİĞİN TARİHİ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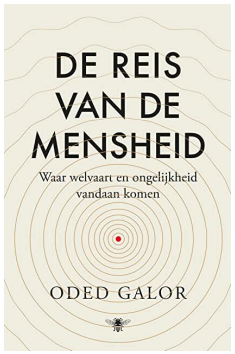
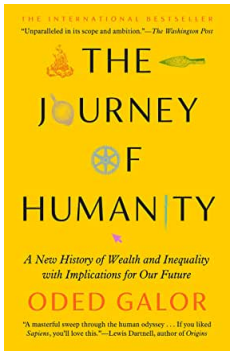
El VIATGE de la HUMANITAT


DE REIS
VAN DE
MENSHEID
Waar welvaart en ongelijkheid vandaan komen
ODED GALOR


THE
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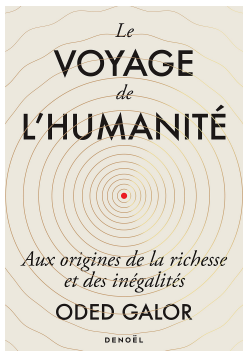
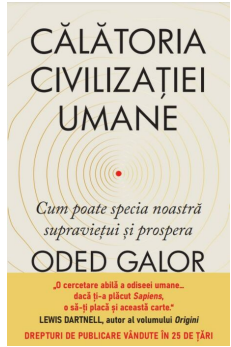
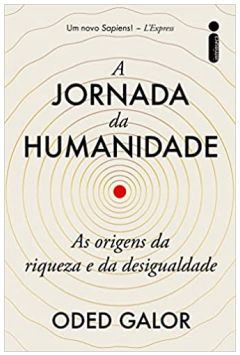
OF
HUMANITY
A New History of Wealth and Inequality with Implications for Our Future
ODED GALOR


Le
VOYAGE
de
L'HUMANITÉ
Aux origines de la richesse et des inégalités
ODED GALOR
DENOËL


格差の起源
なぜ人類は繁栄し、不平等が生まれたのか
人類がアフリカを出たときから格差は始まっていた
経済学の常識を覆す統一理論の登場！


CĂLĂTORIA
CIVILIZAȚIEI
UMANE
Cum poate specia noastră supraviețui și prospera
ODED GALOR
LEWIS DARTNELL, autor al volumului Origini
DREPTURI DE PUBLICARE VÂNDUTE ÎN 25 DE ȚĂRI


A
JORNADA
da
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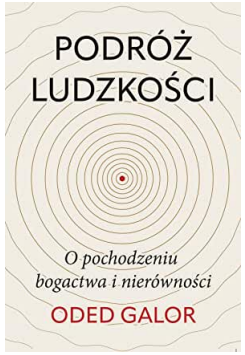
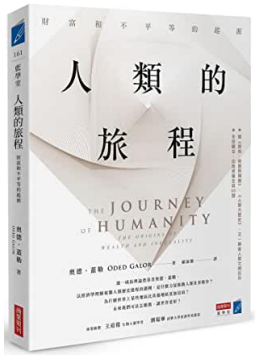
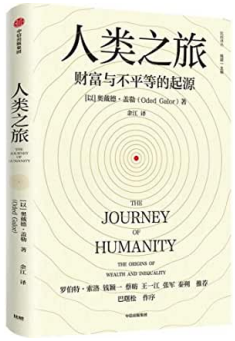
As origens da riqueza e da desigualdade
ODED GALOR


Oded Galor
Il viaggio dell'umanità
Alle origini del benessere e della diseguaglianza
Rizzoli


PODRÓŻ
LUDZKOŚCI
O pochodzeniu bogactwa i nierówności
ODED GALOR


人類的旅程


DA
MENNESKEHEDEN
BLEV TIL
– historien om hvordan vi blev rige og endte ulige
ODED GALOR


人类之旅
财富与不平等的起源
THE
JOURNEY
OF
HUMANITY

Mysteries of the Journey of Humanity

- The Mystery of Growth
  - What are the roots of the dramatic transformation in living standards in the past centuries, after hundreds of thousands of years of stagnation?
- The Mystery of Inequality
  - What is the origin of the vast inequality in the wealth of nations?

The Journey of Humanity

Over most of human existence

- Human life was "*Nasty, Brutish & Short*" (Hobbes, 1651)
  - Remarkably similar to that of other species:
    - Humans were preoccupied by survival & reproduction
    - Living standards were near subsistence
    - Minor differences in living conditions across time & space

Living Standards Few Centuries Ago

- 1/4 of new born died before reaching their first birthday
- Numerous women perished during childbirth
- Life expectancy rarely exceeded 40
- 'Economic Crisis' $\not\Rightarrow$ 'Belt-tightening'
  - $\Rightarrow$ Mass starvation & Extinction

Metamorphosis

- Over the past two centuries
  - Dramatic transformation in living standard within & across societies
    - World's income per capita has increased 14-fold
    - Life expectancy has more than doubled
    - Great divergence in income per capita across countries

Manifestations of this Striking Metamorphosis

Residents of Jerusalem whisked in a time machine:

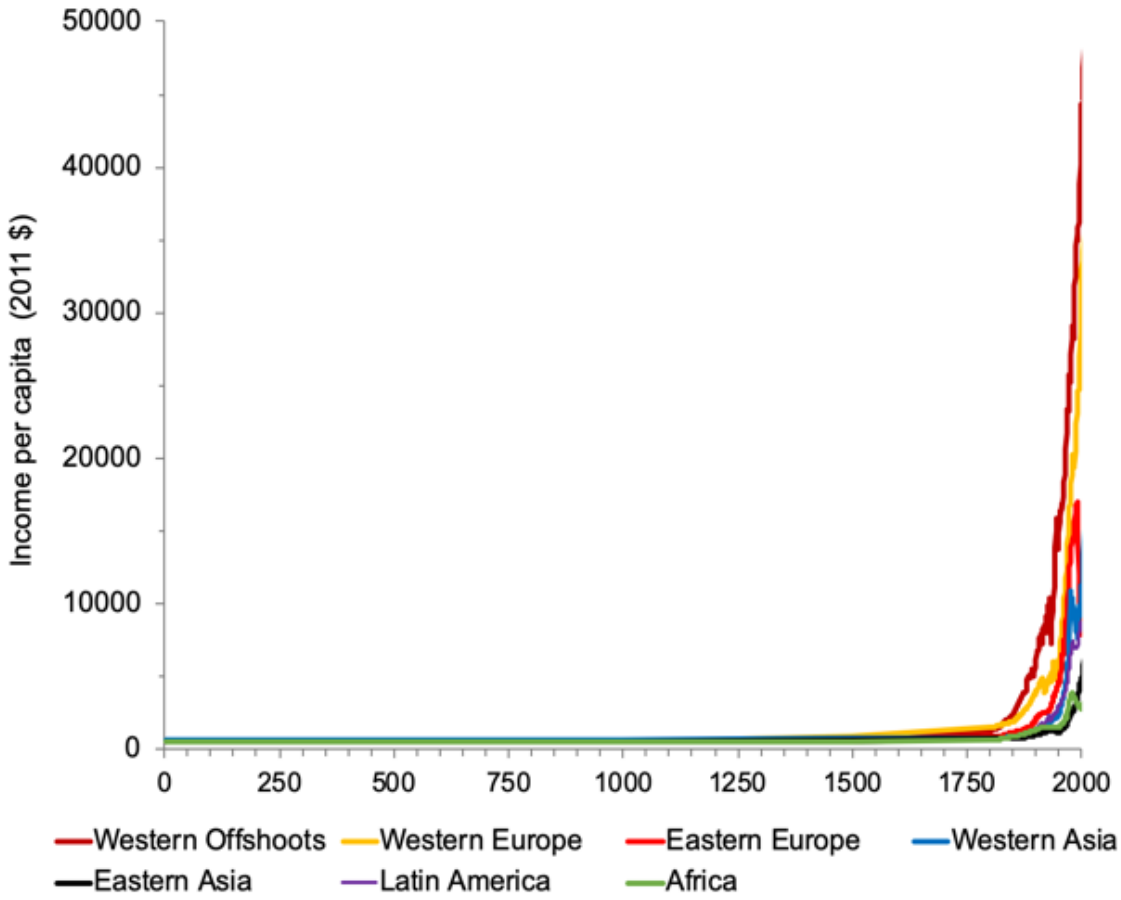
- From Roman Jerusalem (1st century) to Ottoman Jerusalem (19th century)
  - Instantaneous adaptation
    - Past knowledge would be largely applicable
    - Technological improvements would be merely incremental
    - Occupations would require similar skills
    - Life expectancy would remain largely unchanged
- From Jerusalem in the 19th century to Jerusalem today
  - Shocking experience
    - Past knowledge would be largely obsolete
    - Modern technologies would appear as a witchcraft
    - Occupations would require incomprehensible skills
    - Life expectancy would double & require future-oriented mindset

Evolution of Living Standards across the Globe

In contrast to popular views

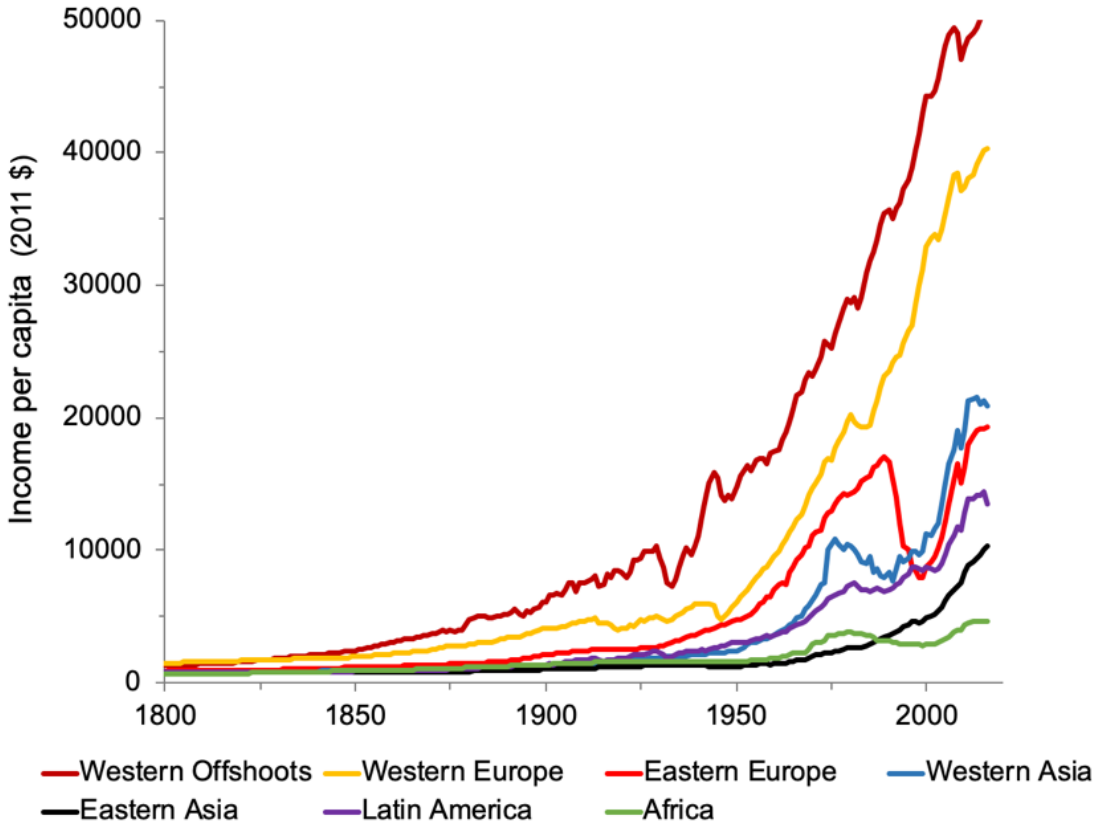
- Living standards had *not* increased *gradually* in the course of history
  - Technological progress had accelerated *gradually* over time, but
    - It had contributed mostly to the explosion of the world's population
    - It had a negligible impact on living standards over most of history
  - The recent rise in living standards reflects a *phase transition*
    - Abrupt transformation, once a tipping point has been reached

Metamorphosis: Income per Capita: 1–2020



Data Source: Maddison Project (2020)

Great Divergence: 1800–2018



Data Source: Maddison Project (2020)

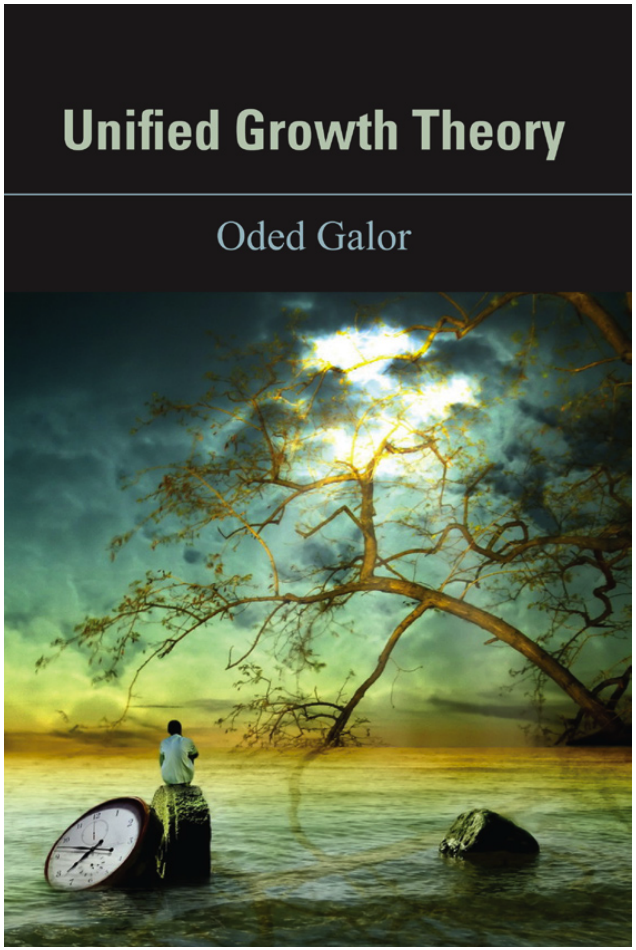
Resolution of these Mysteries

- Requires the identification of:
  - Forces that permitted the transition from stagnation to growth
  - The origins of the differential timing of the transition across the globe
  - The role of historical & pre-historical initial conditions in this process
- Provides important insights about:
  - Design of strategies to mitigate inequality across the globe

Neoclassical Growth Theory

- Does not shed any light on the two main mysteries of the growth process:
  - Economies are **assumed** to operate in the modern growth regime
    - No insights about the origins of economic growth
  - Diminishing returns to physical & human capital and technological progress
    - Reduction in inequality & convergence
    - $\Longrightarrow$ Limited insights about the mystery of inequality

Unified Growth Theory



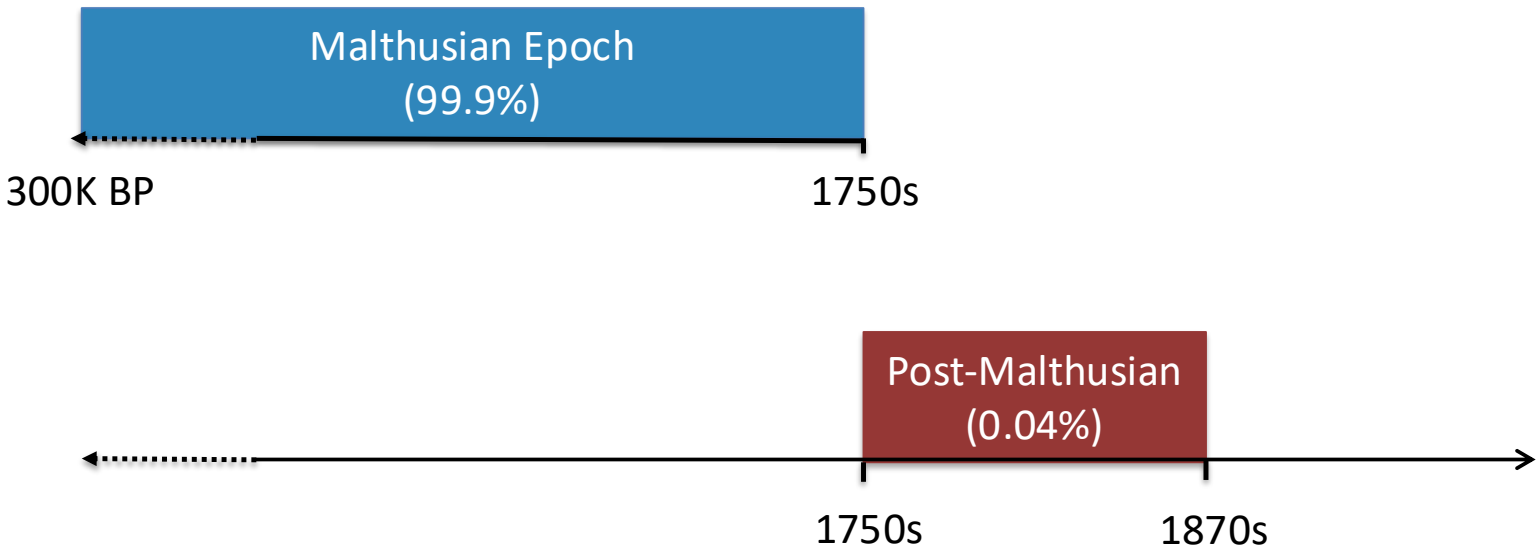
Princeton University Press, 2011

Phases of Development

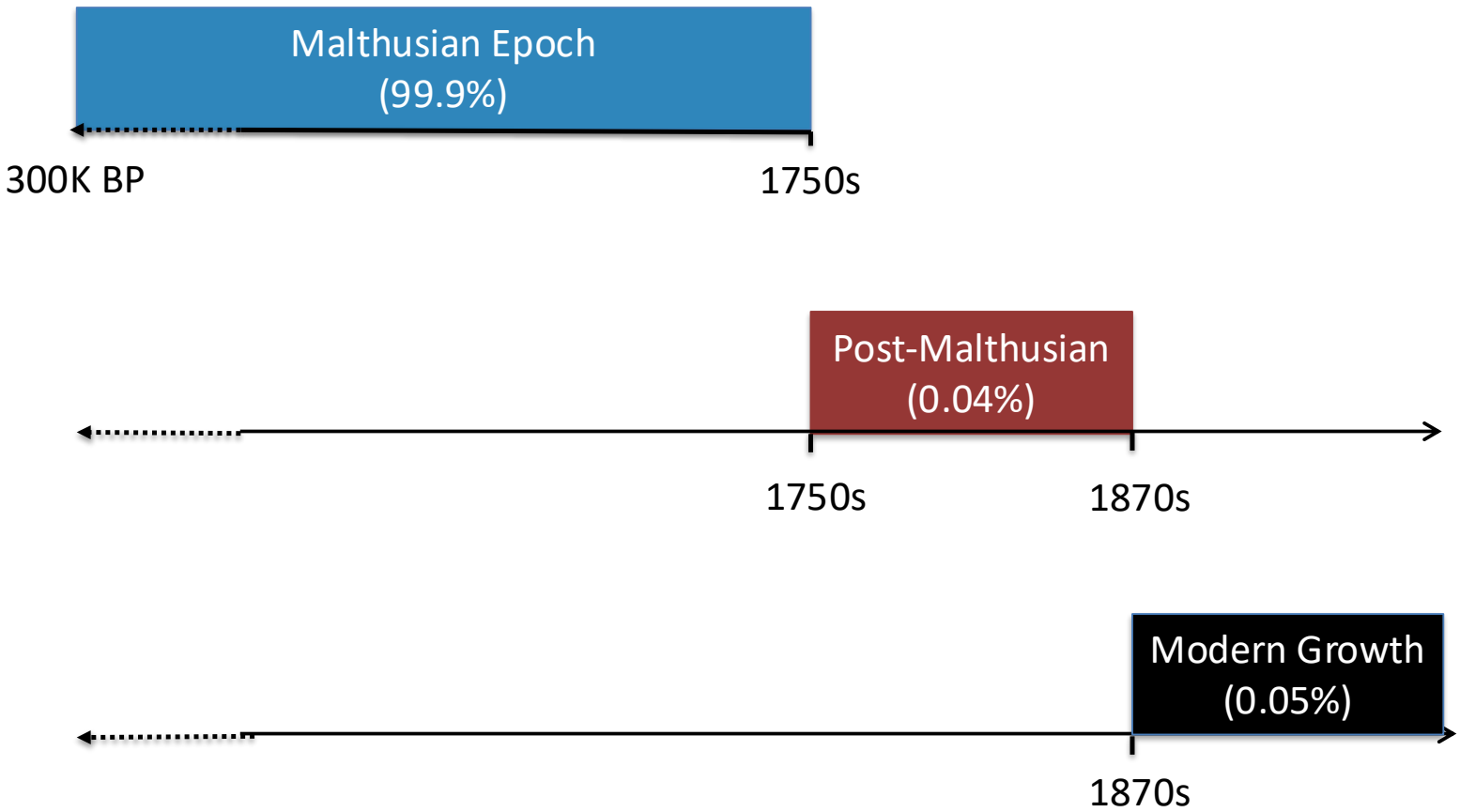
- The Malthusian Epoch
- The Post-Malthusian Regime
- The Modern Growth Regime

Phases of Development: Timeline in the Most Developed Economies

Phases of Development: Timeline of the Most Developed Economies



Phases of Development: Timeline of the Most Developed Economies



The Malthusian Epoch

- Dualism: Stagnation & Dynamism:
  - Stagnation in living standards:
    - Income per capita: fluctuated near the subsistence level
    - Life expectancy: fluctuated in the range of 25-40 years
  - Dynamism (Slow at any point in time, but sizable over 300,000-year period):
    - Technological progress
    - Population growth
    - Adaptation
  - Malthusian dynamism
    - Ultimately triggered the transition from stagnation to growth

Impact of Technological Progress

- Technological progress
  - $\Rightarrow$ Increased income per capita in the short-run
  - $\Rightarrow$ Population grew: due to: reduced mortality & increased fertility
  - $\Rightarrow$ Income per capita inevitably reverted back to its long-run level
- Technologically advanced & land-rich economies had:
  - Higher population density
  - But similar levels of income per-capita in the long-run

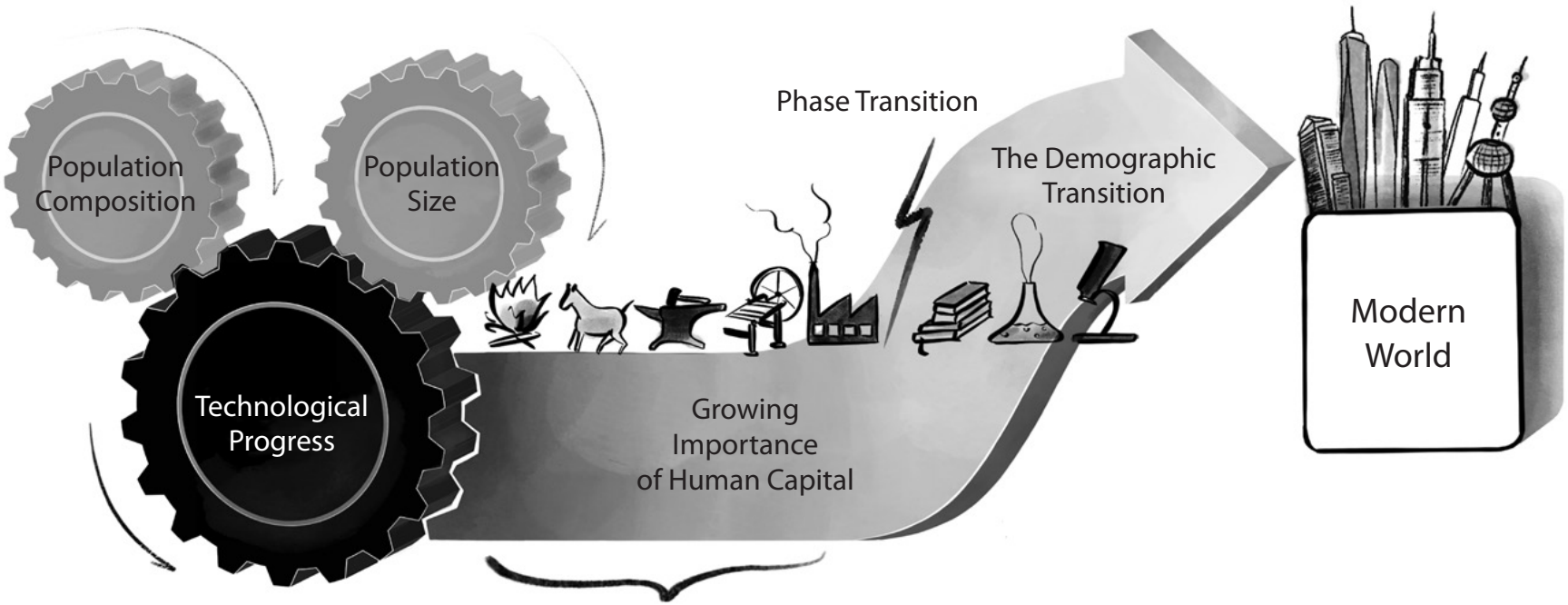
Adaptation

- The Malthusian pressure affected
  - The size of the population
  - The composition of the population
- Traits (cultural & individual) that were complementary to the growth process
  - Generated higher income
    - $\Rightarrow$ Higher reproductive success
    - $\Rightarrow$ Became more prevalent in the population
- Adaptation
  - Raised the prevalence of complementary traits to the growth process
  - Reinforced the process of development & the ultimate take-off

The Wheels of Change

- During the Malthusian epoch:
  - Population size & composition $\Rightarrow$ Technological progress
  - Technological progress $\Rightarrow$ Population size & composition
- Technological progress accelerated & ultimately reached a critical threshold
  - Human capital became essential to cope with the changing environment
- Human capital formation triggered a reduction in fertility
  - The Malthusian equilibrium vanished
  - Growth was freed from the counterbalancing effect of population
- Tech progress & human capital formation & decline in population growth
  - $\Rightarrow$ Sustained economic growth

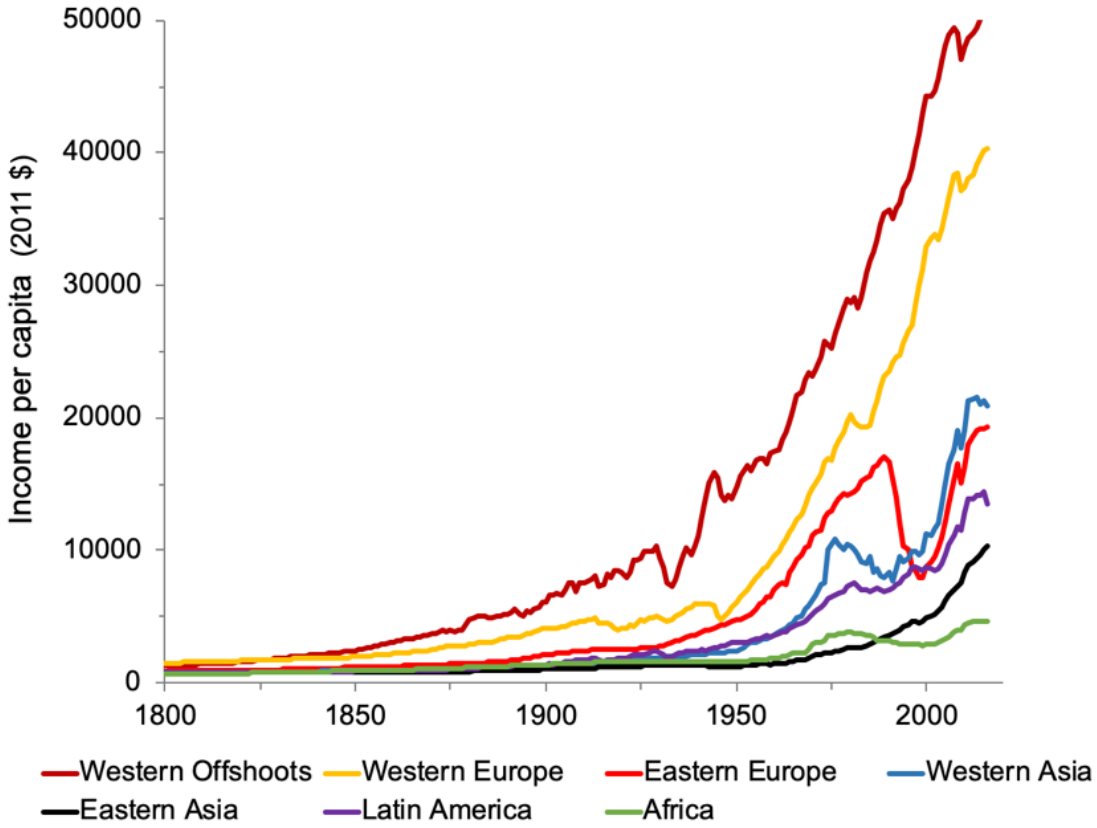
The Wheels of Change



The Cogs of Change

Phase Transition

Roots of Global Inequality



Data Source: Maddison Project (2018)

Proximate Causes of Uneven Development

- Cross-country differences in:
  - Human capital accumulation
  - Physical capital accumulation
  - Technological Levels
- But why some societies fail to:
  - Efficiently invest in physical and human capital?
  - Adopt advance technologies?
- What are the historical and pre-Historical barriers for development?

Historical and Pre-Historical Barriers for Development

- Deeper Roots:
  - Colonialism
  - Institutional & Cultural characteristics
- Ultimate Roots:
  - Geographical & Population diversity

Colonialism & Uneven Development

- Colonialism has been associated with:
  - Extraction
  - Asymmetric trade

    (Galor-Mountford, RES 2008)
  - Imposition of (persistent) colonial Institutions

    (Engerman-Sokolof, 1997; Acemoglu et al., AER 2001)
  - Development of (persistent) educational & physical infrastructure

    (Donaldson, AER 2018; Valencia Caicedo, QJE 2019)

Extraction

- Extraction of:
  - Wealth (Gold, Silver, Diamonds, Jewelry)
  - Natural resources (Timber, Rubber, Oil, Precious Metals)
  - Cultural treasures
    - $\longrightarrow$ Sizable (zero-sum) "wealth effect"
    - $\longrightarrow$ Limited "growth effect"
    - $\longrightarrow$ Limited impact on the transition from stagnation to growth

Asymmetric Trade (Galor-Mountford, RES 2008)

- Colonies were induced to specialize in the production of agricultural goods & raw material
  - Reduced demand for human capital
  - Reduced human capital formation & delayed the fertility decline
  - Delayed the take-off from stagnation to growth
- Colonizers: specialized in the production of manufactured goods
  - Increased demand for human capital
  - Fostered human capital formation & the fertility decline
  - Expedited the take-off from stagnation to growth

The Fingerprints of Institutions

- Emergence of differential institutions: (North, 1981; Engerman-Sokoloff, 1997; Acemoglu-Robinson, 2012)
  - Growth-enhancing inclusive institution
  - Growth-retarding extractive institution
- Institutions had (sometime) emerged at "random critical junctures"
  - The Black Death's impact on the decline of Feudalism in UK
  - The Glorious Revolution & Constitutional Monarchy (England 1688-9)
  - Division of Korea (along the 38th parallel)

Impact of the Division of Korean Peninsula along the 38th Parallel

The Fingerprints of Institutions

Yet institutions have mostly evolved gradually in the course of human history

- The Neolithic (Agriculture) Revolution (Diamond, 1997)
  - Higher population density & cities & states $\rightarrow$ demand for institutions
- Land Fragmentation (Europe) vs. Geographical Connectivity (China)
  - Political competition $\rightarrow$ inclusive institutions (Europe)
  - Political uniformity $\rightarrow$ extractive institutions (China)
- Soil suitability for large plantations (Engerman-Sokoloff, 1997, Galor et al., RES 2009)
  - Concentration of political power $\rightarrow$ extractive institutions & slavery

The Cultural Factor

- Adherence to cultural norms was essential for survival
  - Norms reflected the cumulative collective wisdom of a society
    - Permitted individuals to act, as if, based the understanding of their surroundings
- Emergence of differential cultural traits (norms, values, beliefs) across regions:
  - Growth-enhancing cultural traits
  - Growth-retarding cultural traits
    - Rare instances of random cultural mutations

The Geographical Roots of Cultural Traits

- High Crop Yield
  - Planting & Harvesting $\rightarrow$ Future-oriented mindset (Galor-Ozak, AER 2016)
- Suitability of the land for the use of the plow
  - Gender division of labor $\rightarrow$ Gender bias (Boserup, 1970; Alesina et al., QJE 2013)

The Shadow of Geography

Geographical characteristics: (Soil quality, Climate, Disease environment, Isolation)

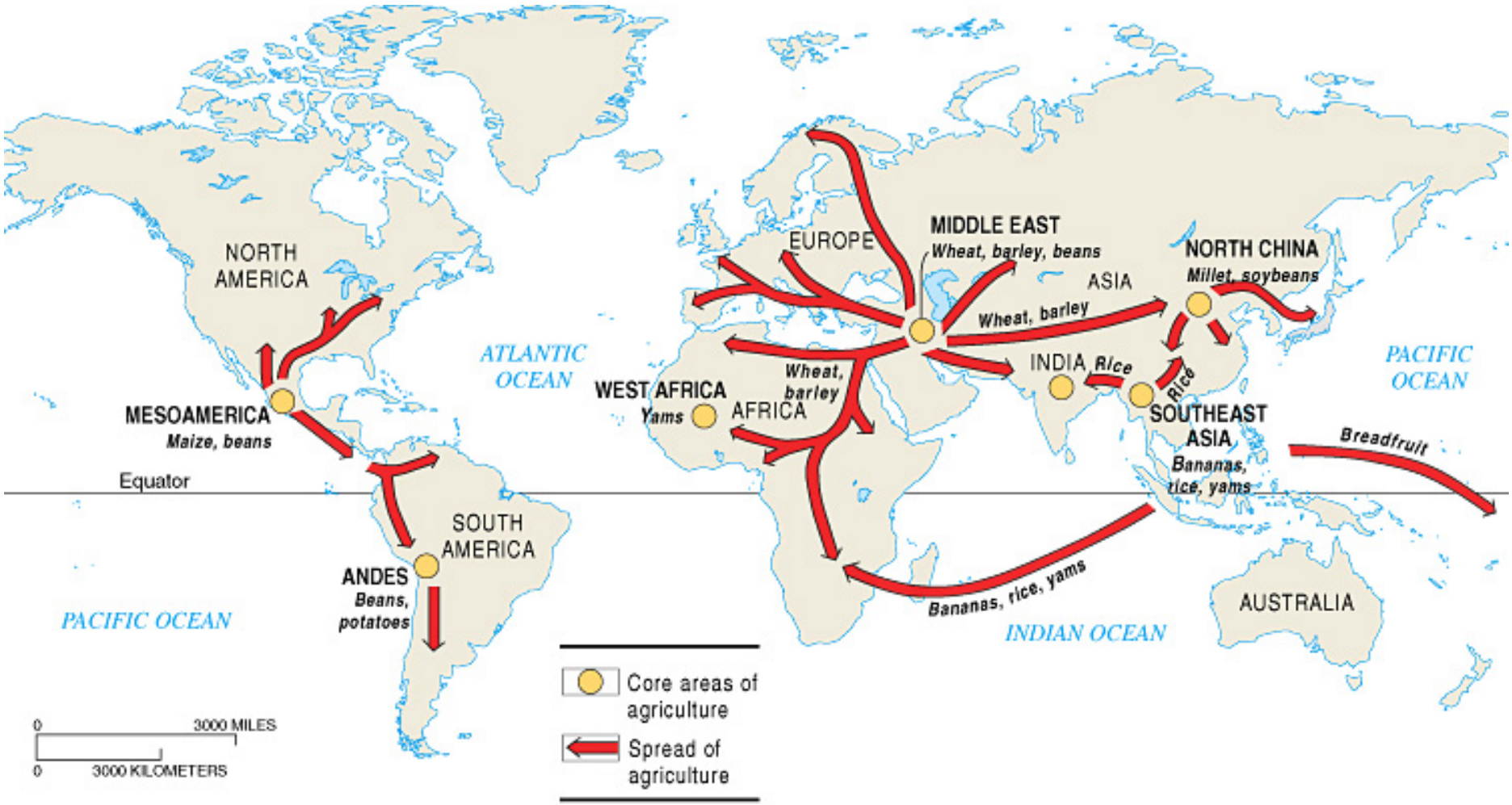
- Indirect (long shadow) impact on
  - The evolution of cultural & institutional characteristics
- Direct impact – Mitigated by diffusion of medical, transportation & IT technologies
  - Labor productivity
  - Human capital formation
  - Trade & Technological progress

The Legacy of the Agricultural Revolution (10,000 BCE)

The transition from hunter-gatherer tribes to agricultural communities

- The emergence of non-food-producing class:
  - $\Longrightarrow$ Knowledge creation (science, technology & written languages)
  - $\Longrightarrow$ Technological head start
- Variations in the timing of the NR – origins of global inequality (Diamond, 1997)

Emergence and Diffusion of the Neolithic Revolution



Source: Slideshare

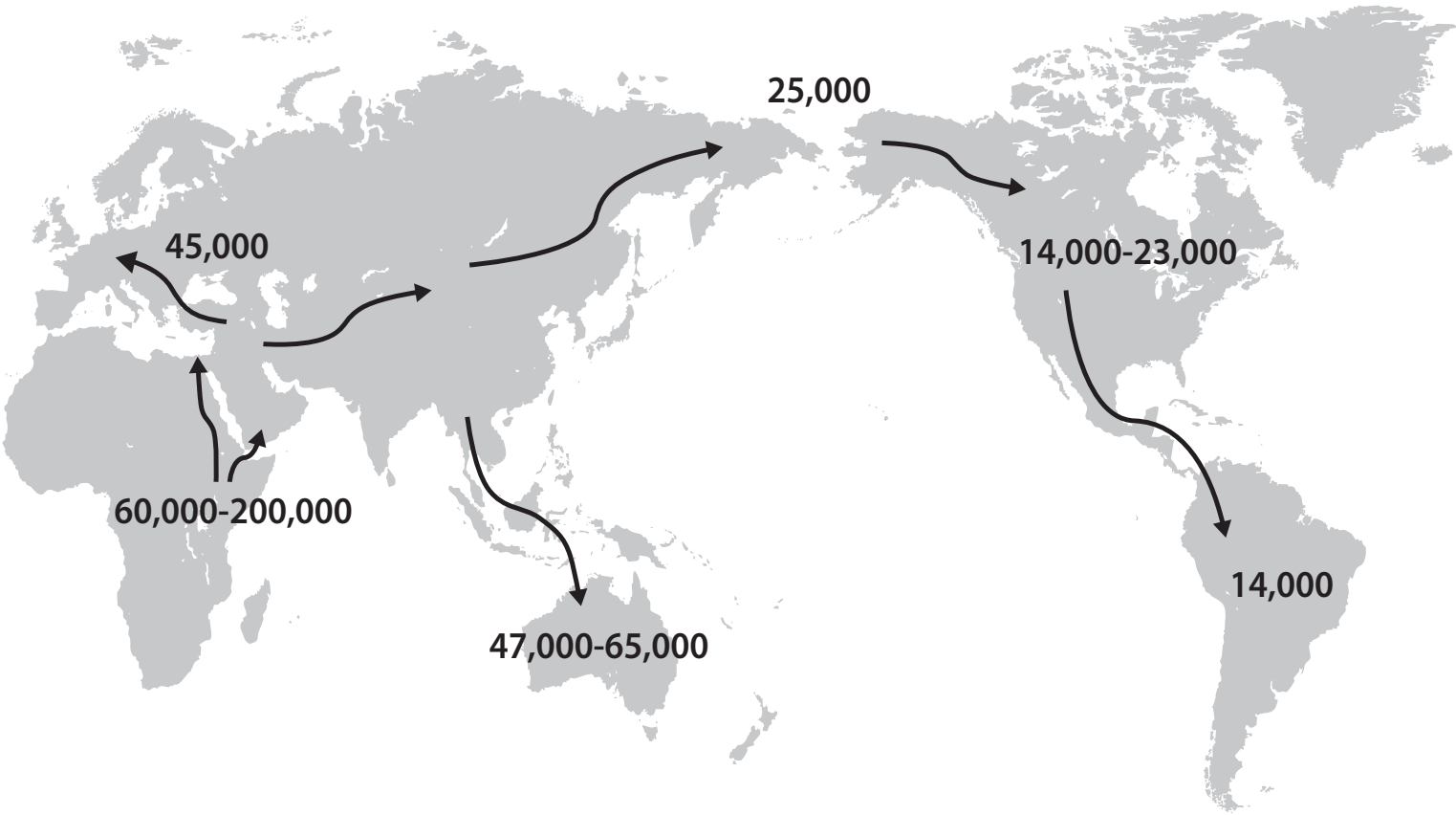
Origins of Global Variations in the Timing of the Neolithic Revolution

- Earlier Neolithic Revolution in Euro-Asia reflects:
  - Geographical factors conducive for biodiversity (climate, latitude, landmass)
    - Largest number of domesticable species of plants & animals
  - East-West orientation
    - Diffusion of agricultural practices along similar latitudes

The Legacy of the Agricultural Revolution (10,000 BCE)

- Earlier onset of the Neolithic Revolution
  - Beneficial in the Middle Ages
    - Due to technological head-start
  - No impact on prosperity in the present-day
    - Due to offsetting effect of comparative advantage in agriculture

The Exodus of Homo sapiens from Africa 60,000-90,000 BP

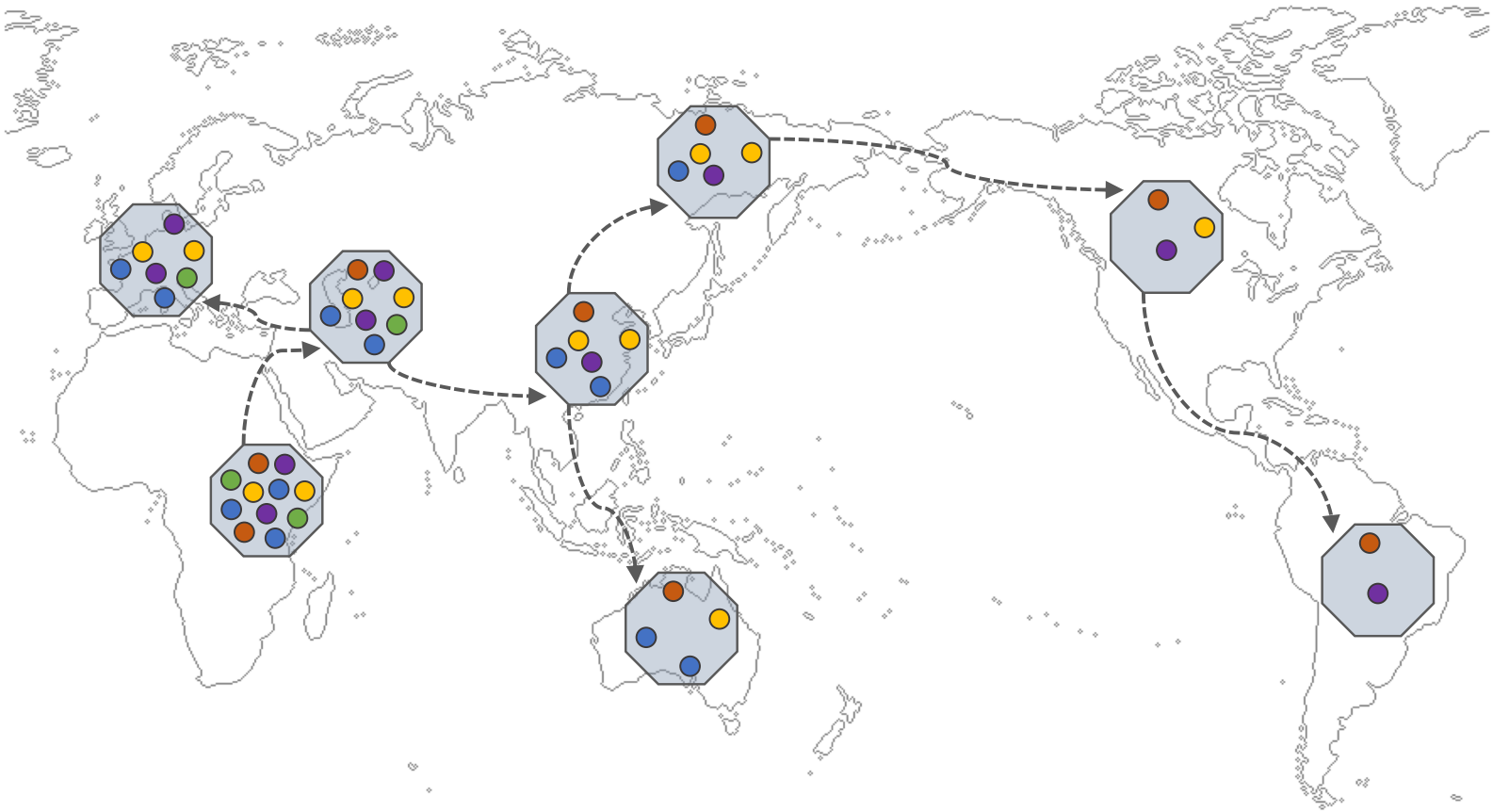


Declining Diversity with Migratory Distance from Africa

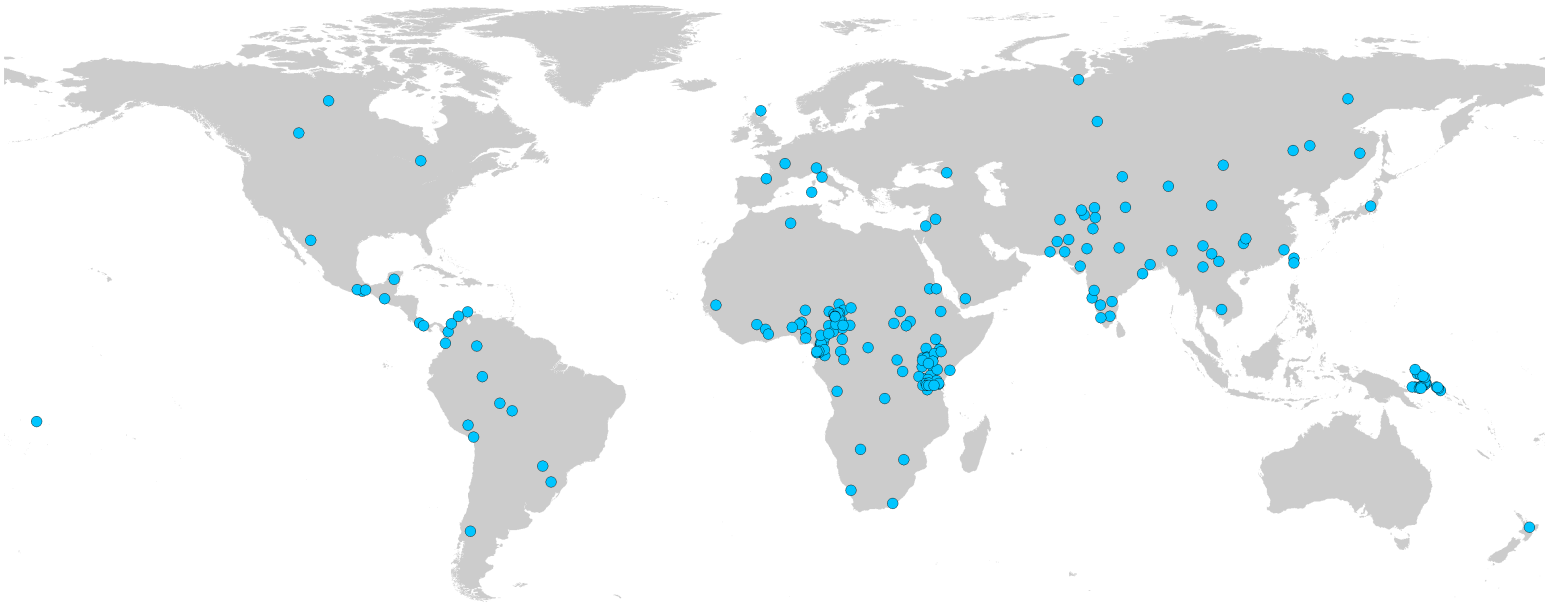
During the exodus of modern humans from Africa

- Departing populations:
  - Carried a subset of diversity of their parental colonies
    - cultural, phenotypic, behavioral & linguistic
  - Migration was sequential
    - Lower diversity among ancestral populations at greater migratory distances from East Africa

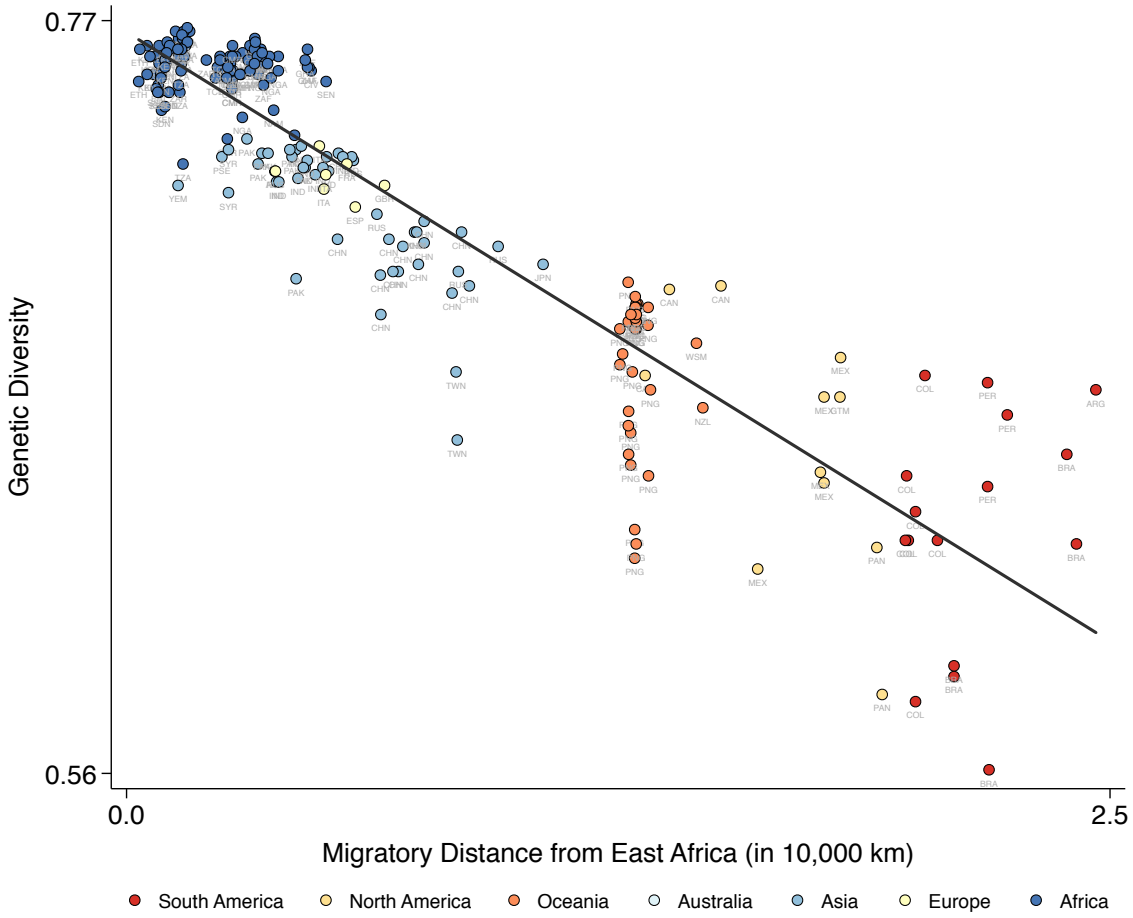
An Illustration of the Serial Founder Effect



Observed Genetic Diversity - 207 Ethnic Groups

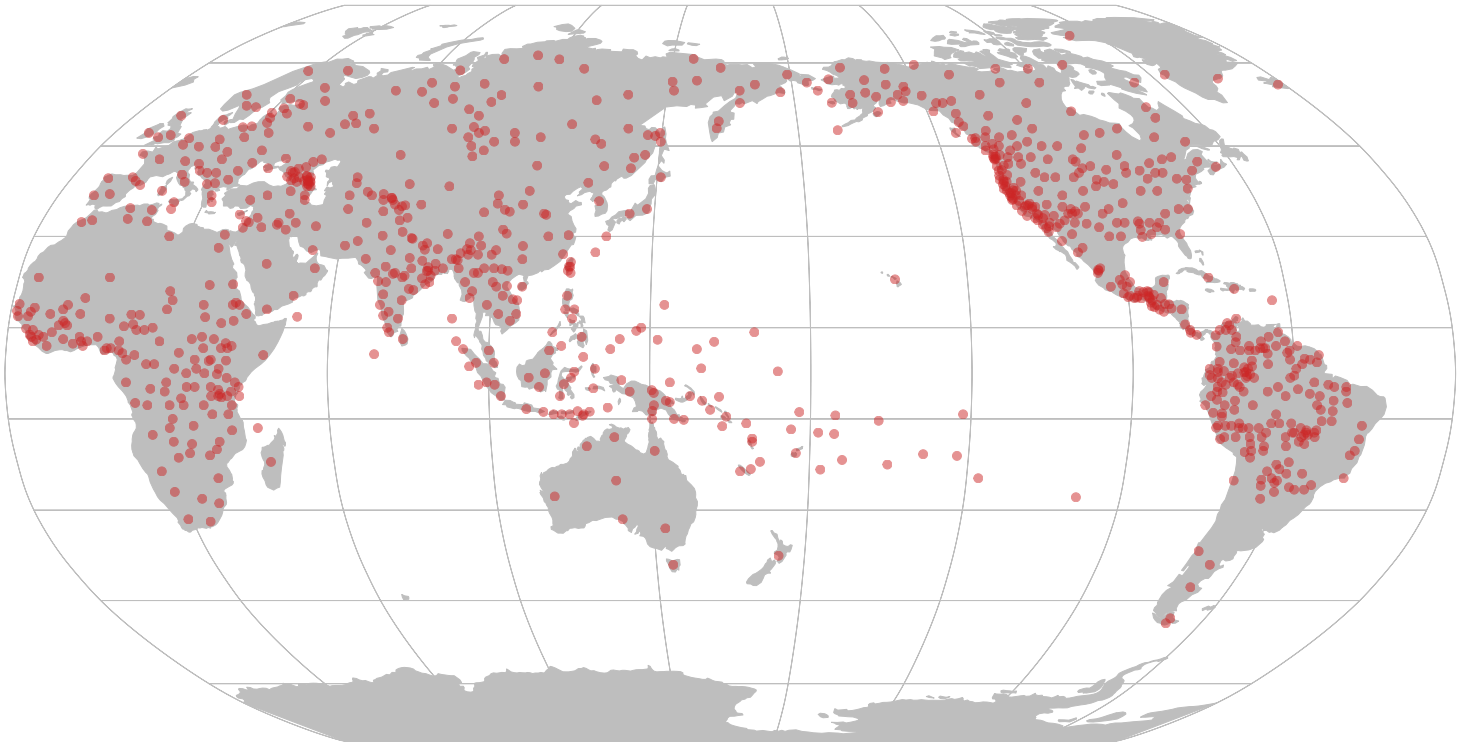


Migratory Distance from Africa and Population Diversity

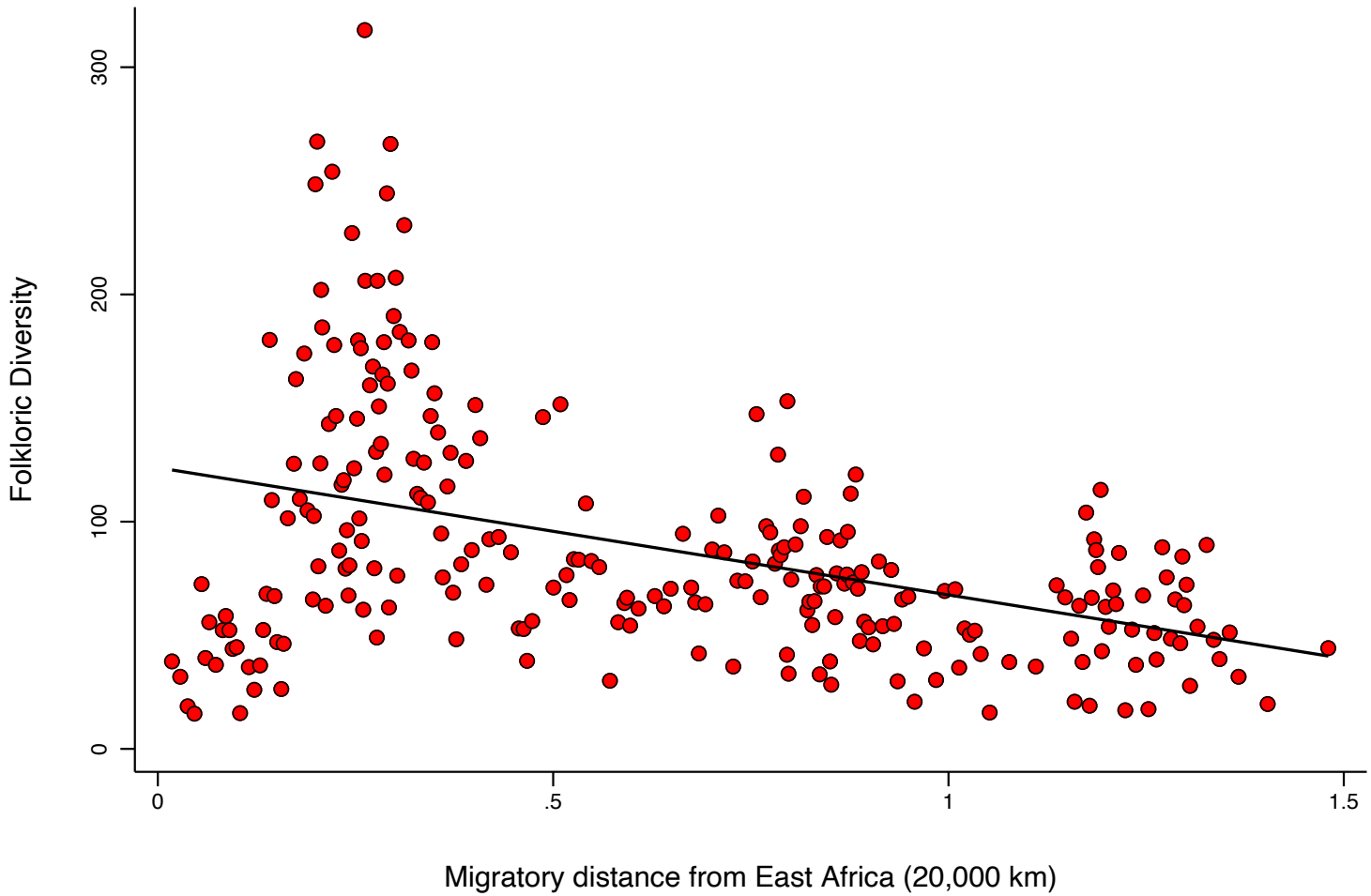


Source: Ashraf-Galor, AER 2013, Arbatli-Ashraf-Galor-Klemp, ECMA, 2020

Folkloric Diversity – 958 Ethnic Groups (Berezkin's Folklore & Mythology Catalogue)



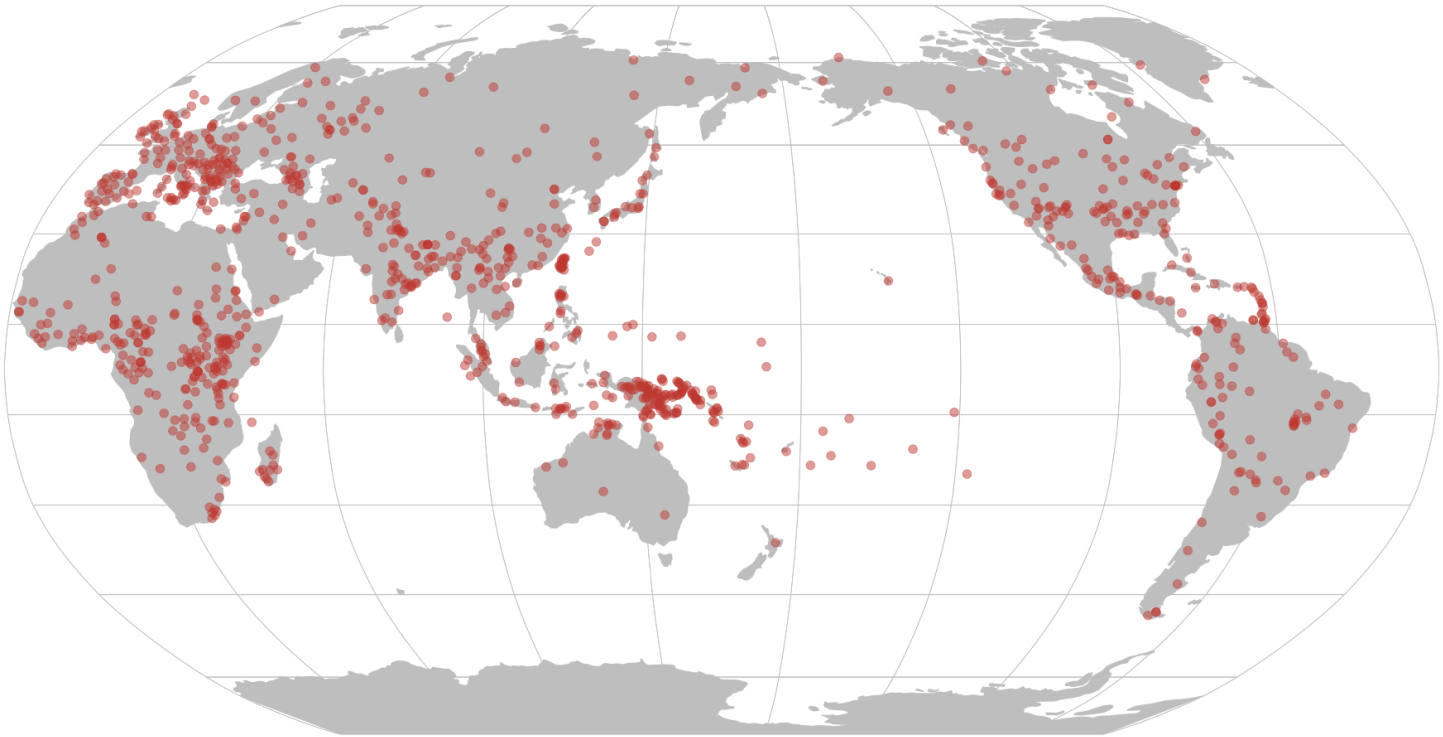
Migratory Distance from Africa & Folkloric Diversity



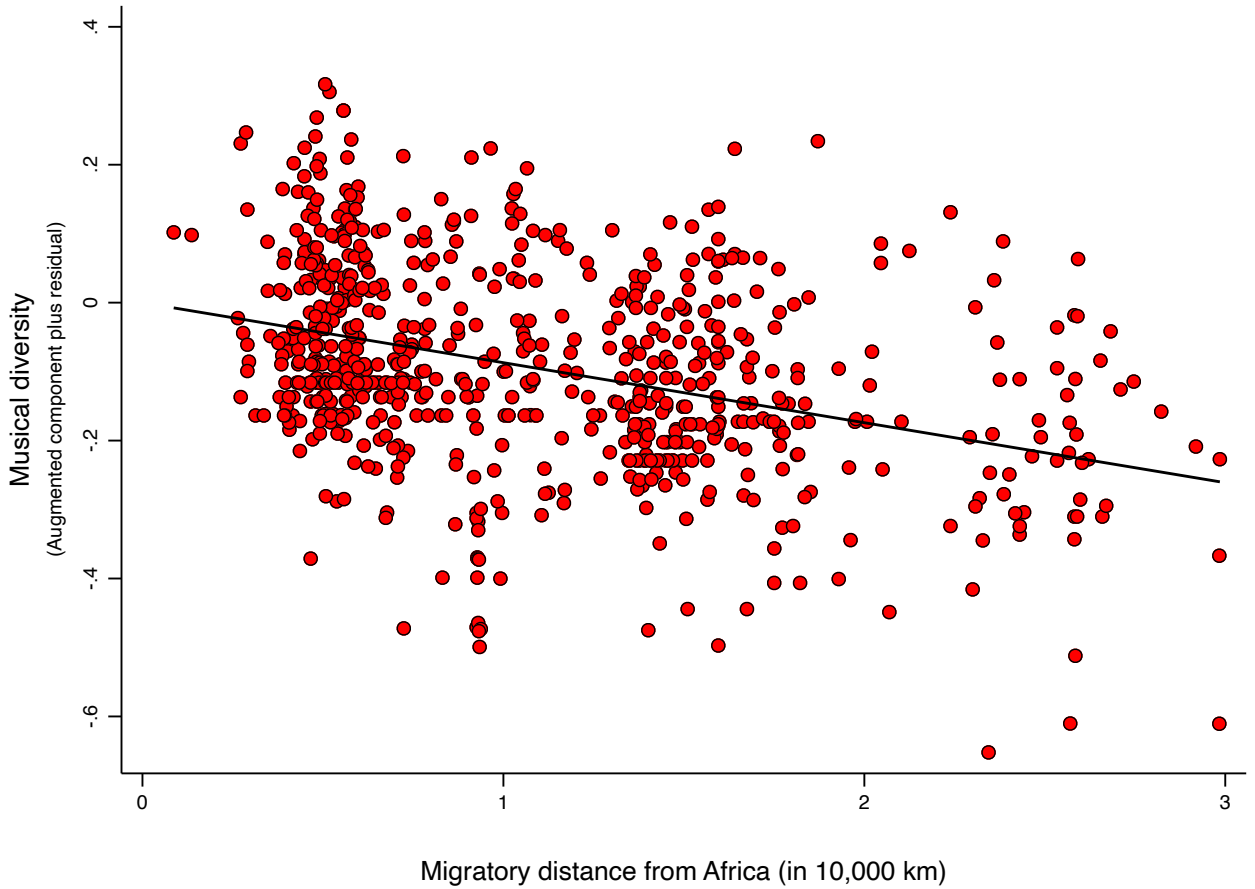
Slope coefficient = -55.572; (robust) standard error = 6.822; t-statistic = -8.146; observations = 958

Data Source: Berezkin's Folklore and Mythology Catalogue

Musical Diversity – 937 Ethnic Groups (Lomax's Cantometrics)



Migratory Distance from Africa and Musical Diversity



Source: Galor-Klemp-Wainstock, 2023

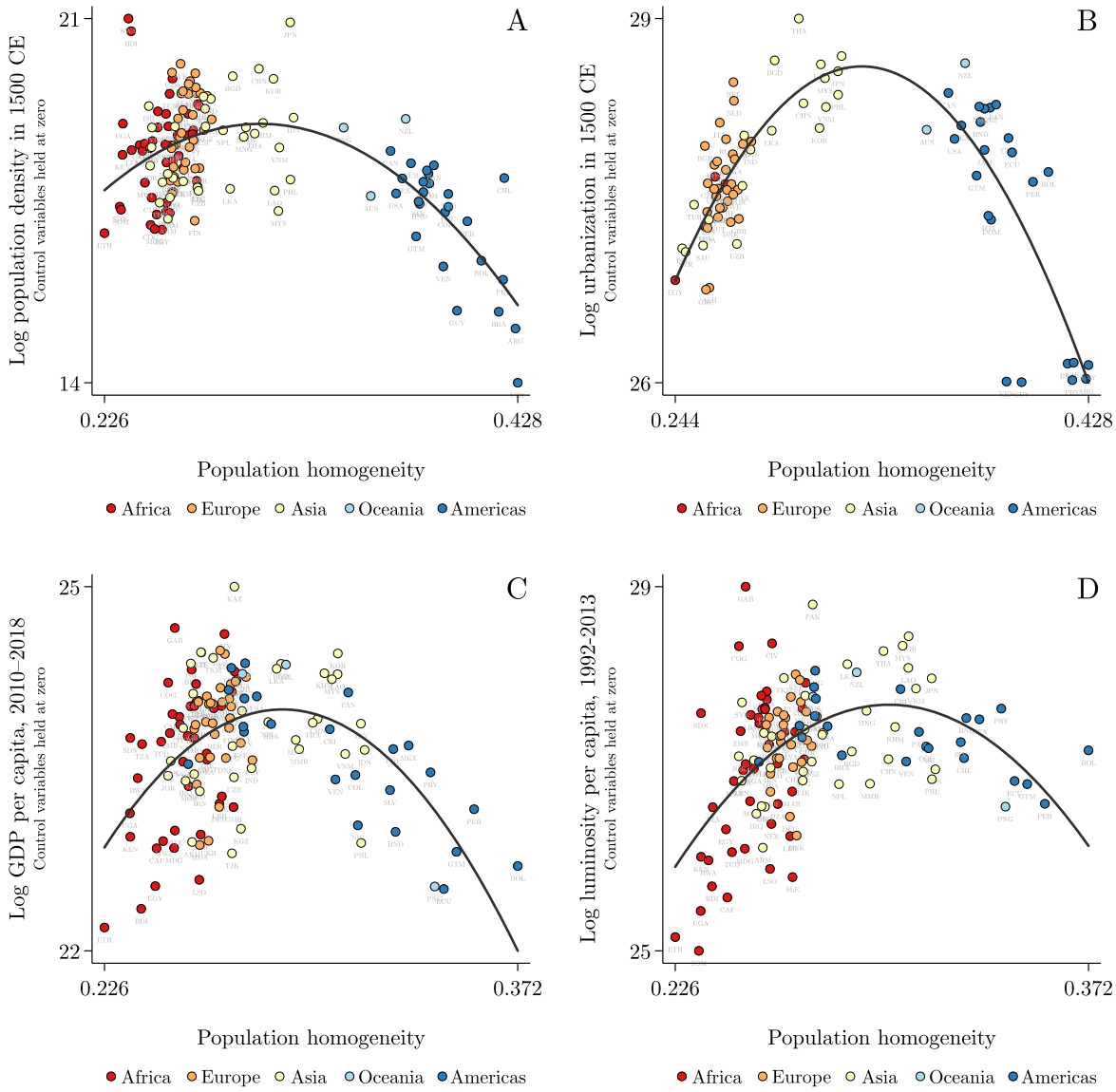
Conflicting Effects of Diversity on Productivity

- Beneficial effects on creativity and innovations
  - Cross-fertilization & complementaries in the production process
- Adverse effects on social cohesiveness
  - Mistrust
  - Disagreement about the desirable public goods
    - $\Longrightarrow$ conflicts

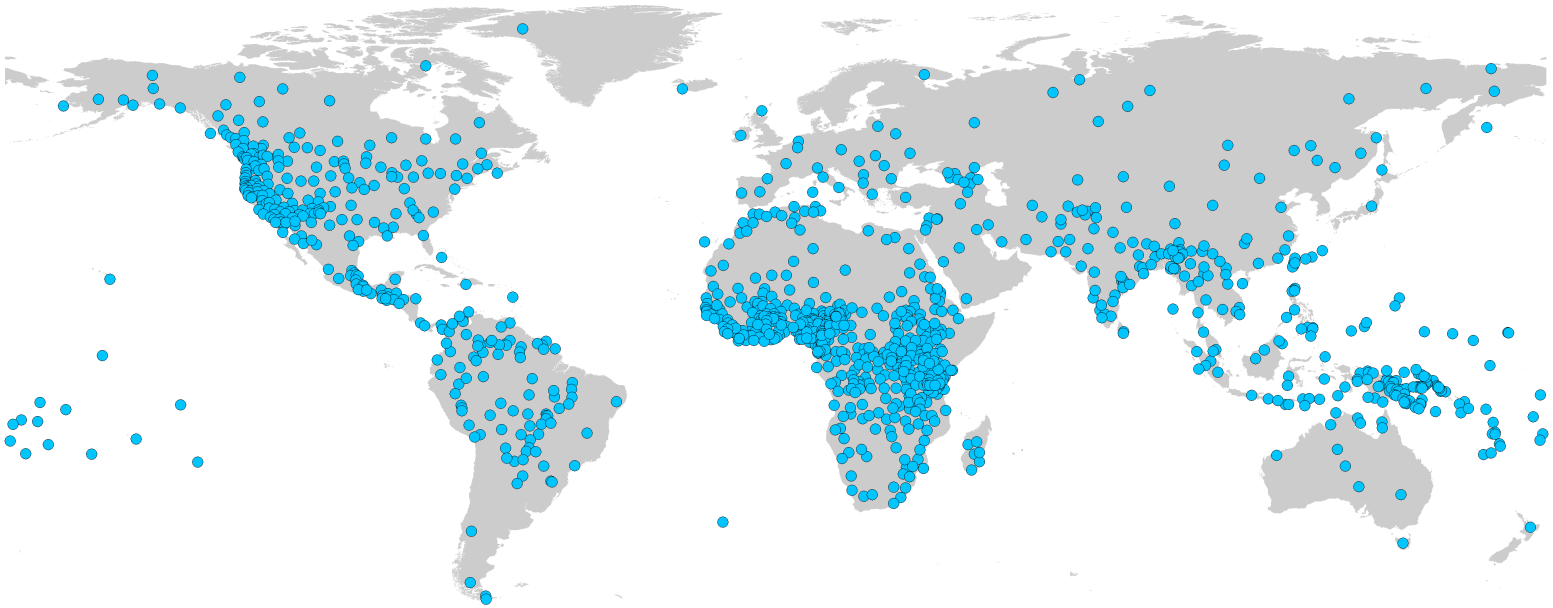
The Out of Africa Hypothesis of Comparative Development

- Positive & diminishing effects of:
  - Diversity on innovations
  - Homogeneity on social cohesiveness
    - Existence of a level of diversity that maximizes productivity (Ashraf-Galor, AER 2013)
    - Migratory distance from Africa of the ancestral population of each society that maximizes productivety

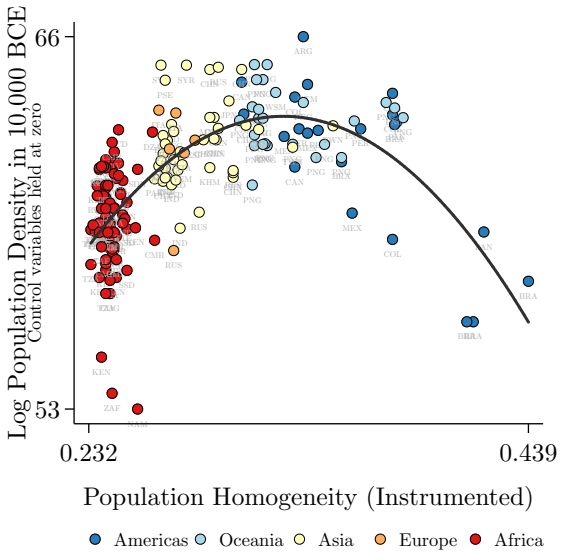
Diversity and Comparative Development

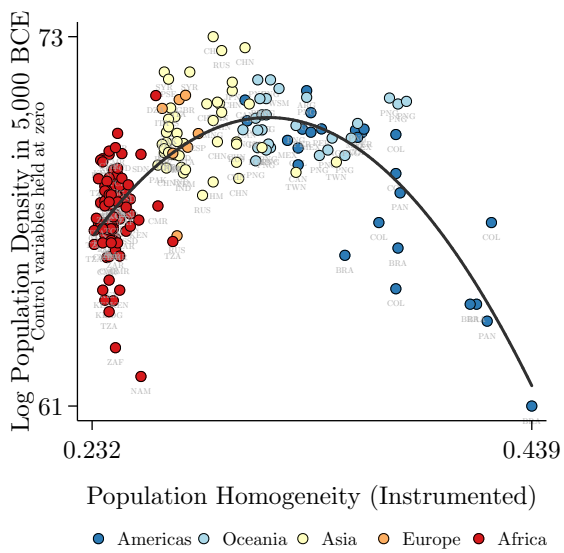


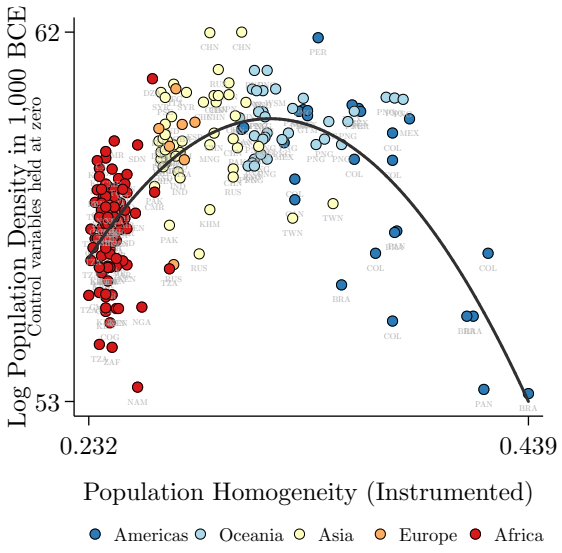
Diversity - 1265 Ethnic Groups

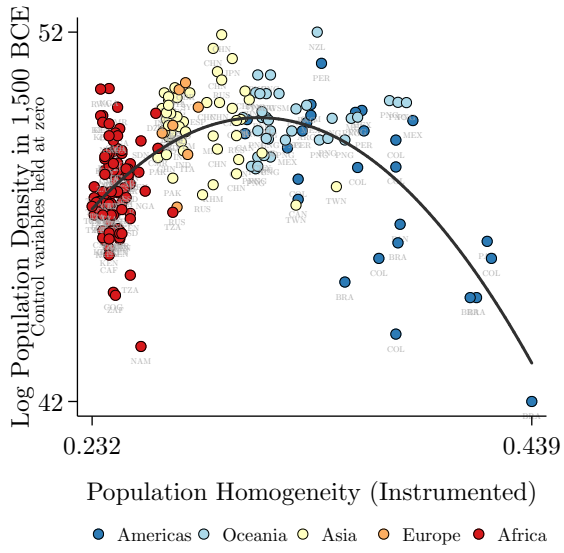


Diversity and Population Density 10,000 BCE - 1500 CE

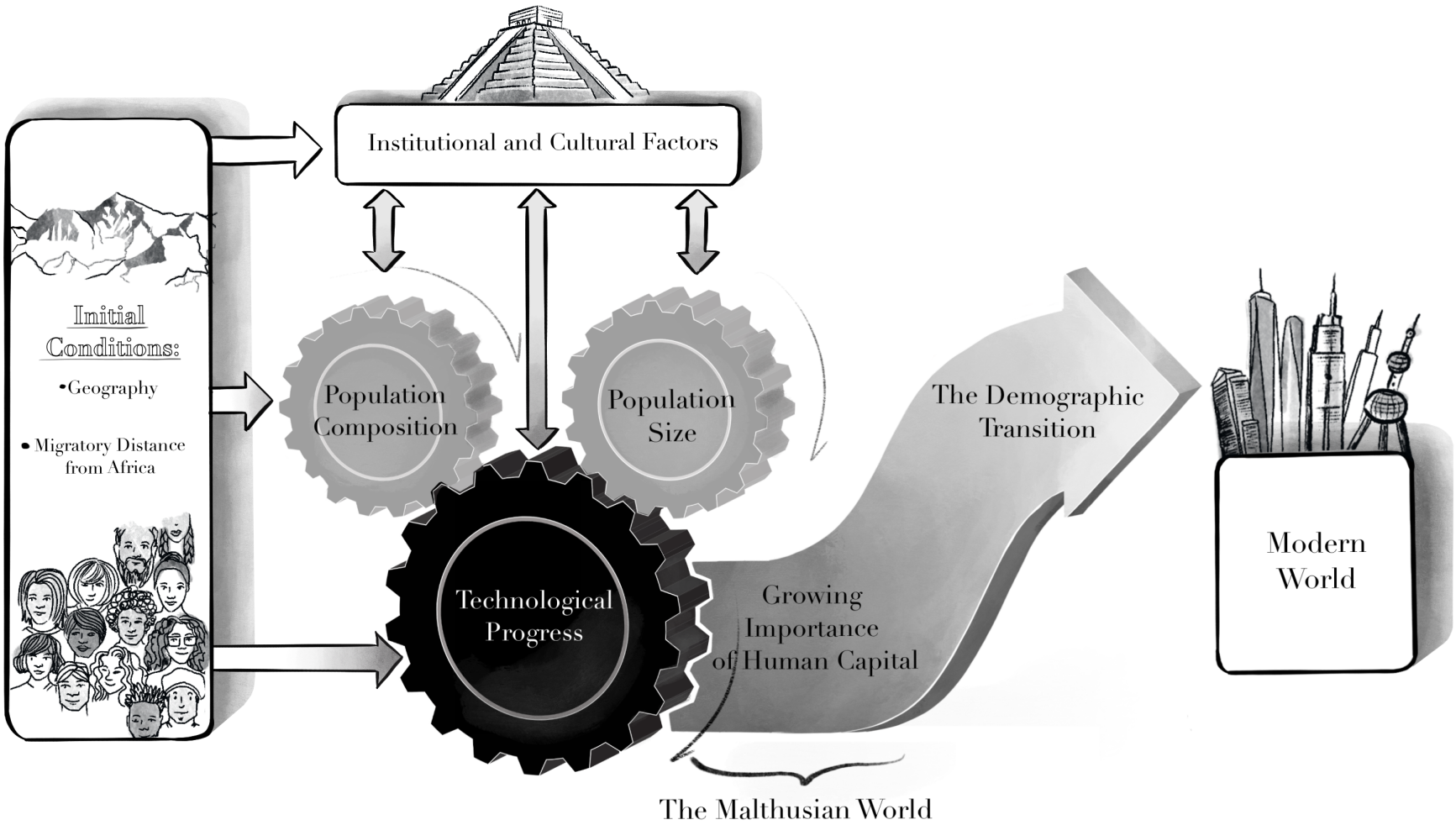








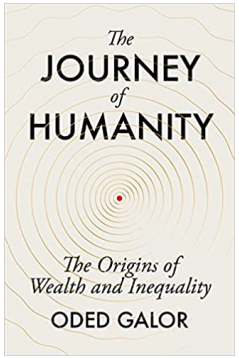
Determinants of the Pace of the Wheels of Change

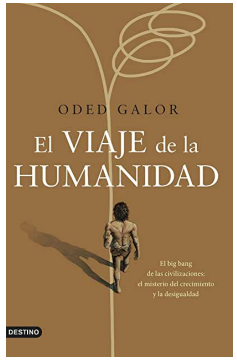


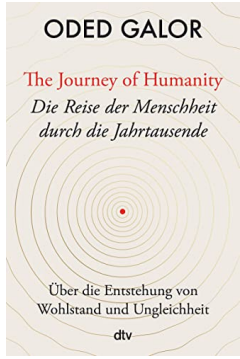
Our Future Journey

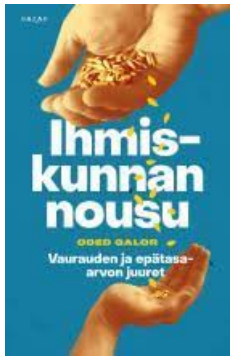
Is History a Fate?

- The Journey of Humanity
  - *"History is not a fate"*
  - *"Considering our history will permit us to design our future"*
- Growth-enhancing policies ought to be uniquely designed for each country:
  - One policy does not fit all nations
- Key for sustaining the Age of Abundance
  - Fertility decline, Investment in adaptable education, Gender equality
  - Balancing between diversity & social cohesion


The
JOURNEY
of
HUMANITY
The Origins of Wealth and Inequality
ODED GALOR

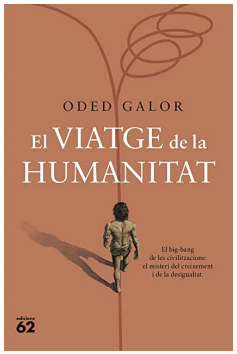

ODED GALOR
El VIAJE de la HUMANIDAD
DESTINO

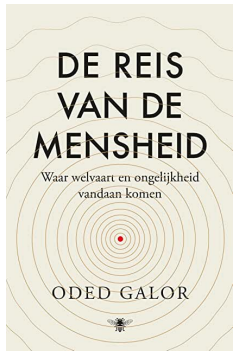

ODED GALOR
The Journey of Humanity
Die Reise der Menschheit durch die Jahrtausende
Über die Entstehung von Wohlstand und Ungleichheit
dtv

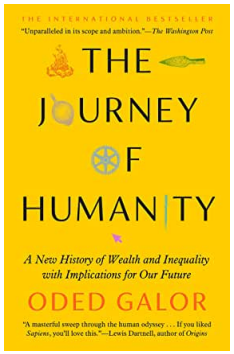

Ihmis-
kunnan
nousu
ODED GALOR
Vaurauden ja epätasa-arvon juuret

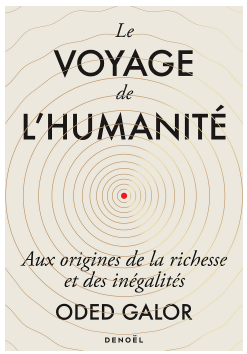

A
JORNADA
da
HUMANIDADE
As Origens da Riqueza e da Desigualdade
ODED GALOR


ODED GALOR
İNSANLIĞIN
SERÜVENİ
ZENGİNLİĞİN VE EŞİTSİZLİĞİN TARİHİ

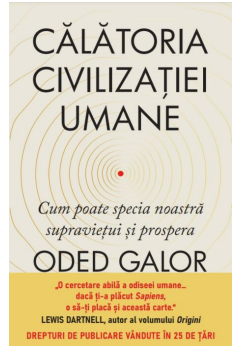

ODED GALOR
El VIATGE de la HUMANITAT

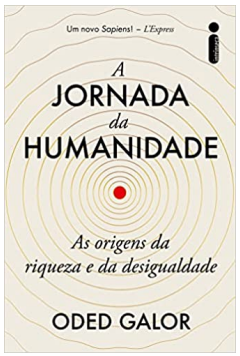

DE REIS
VAN DE
MENSHEID
Waar welvaart en ongelijkheid vandaan komen
ODED GALOR


THE
JOURNEY
OF
HUMANITY
A New History of Wealth and Inequality with Implications for Our Future
ODED GALOR


Le
VOYAGE
de
L'HUMANITÉ
Aux origines de la richesse et des inégalités
ODED GALOR
DENOËL

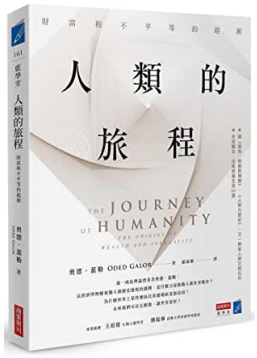

格差の起源
なぜ人類は繁栄し、不平等が生まれたのか
人類がアフリカを出たときから格差は始まっていた


CĂLĂTORIA
CIVILIZAȚIEI
UMANE
Cum poate specia noastră supraviețui și prospera
ODED GALOR
LEWIS DARTNELL, autor al volumului Origini
DREPTURI DE PUBLICARE VÂNDUTE ÎN 25 DE ȚĂRI

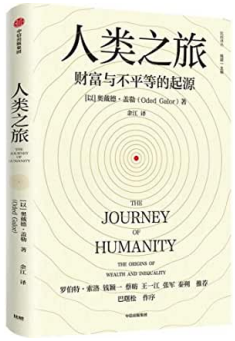

A
JORNADA
da
HUMANIDADE
As origens da riqueza e da desigualdade
ODED GALOR

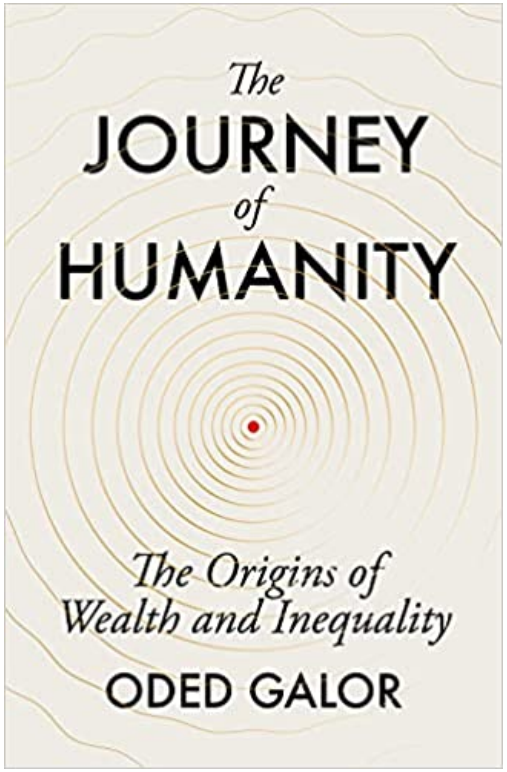

Oded Galor
Il viaggio dell'umanità
Alle origini del benessere e della diseguaglianza
Rizzoli

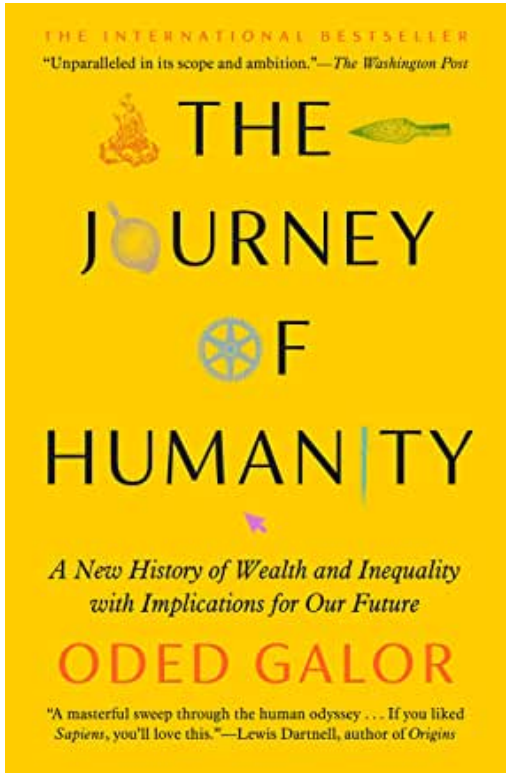

PODRÓŻ
LUDZKOŚCI
O pochodzeniu bogactwa i nierówności
ODED GALOR


人類的旅程


DA
MENNESKEHEDEN
BLEV TIL
– historien om hvordan vi blev rige og endte ulige
ODED GALOR


人类之旅
财富与不平等的起源
THE
JOURNEY
OF
HUMANITY





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Hottest New Books for Great Escape – **The Guardian**
Berlin's Best Non-Fiction 2022 – **Exberliner Magazine**
Best Nonfiction of the Year 2023 – **Japan**

A great historical fresco – **Le Monde**
Breathtaking. A new Sapiens! – **L'Express**
A deeply rewarding & fascinating exploration – **The Spectator**
Unparalleled in its scope and ambition – **The Washington Post**
An inspiring & almost impossibly erudite masterwork – **The New Statesman**
Its breadth and ambition are reminiscent of Guns, Germs, and Steel & Sapiens – **Financial Times**

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