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# Without liberty and justice, what extremes to expect? Two contemporary perspectives 

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JEL Classification: C70, C73, P00, Z13
Keywords: liberty, Social Contracts, repeated games, Competing Species, Anarchy, Despotism, Neofeudalism

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October 2021


#### Abstract

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## 1. Introduction

(a) Liberté, Egalité, Empathie

In Natural Justice, Ken Binmore (2005) explores the conditions needed to sustain a Social Contract that can successfully coordinate the activities of society. The search is not for some mythical agreement between people and their sovereign, however. Nor is it for principles handed down by some philosopher from an ivory tower. It is for arrangements that deliver liberty and justice, which, he argues must satisfy three conditions: harnessing individual incentives, delivering social efficiency and being what society reckons to be 'fair'.

[^0]The prototype to which he appeals are pre-historic, hunter-gatherer societies which successfully combined the returns to scale in hunting with private incentives for participation, while apparently retaining an egalitarian social structure with no overweening bosses. In the final chapter of his book, he reveals his own preference - for a social contract which is free and fair, not feudal ${ }^{2}$. In historical terms, key events cited in the evolution of such 'contracts' are the Glorious Revolution of 1688, which secured constitutional monarchy for Britain ${ }^{3}$; and the American Declaration of Independence a century later, which spelled the end of British colonial rule in that territory.

Binmore also observes that other social contracts are viable, dubbed 'Neofeudal', which are neither free nor fair (in our terms) but may be efficient; and that there are societies with no social contracts in operation - including the Utopian but unworkable dreams of Left and Right ${ }^{4}$. To prevent sliding from free and fair social contracts into any of these unattractive alternatives, societies have, he argues, often evolved 'stages of punishment' for behaviour that challenges existing social norms.

## (b) A subtle balance of powers

Subsequently, Acemoglu and Robinson (2019) have come up with a formula which, they claim, will preserve and promote a liberal and just society. This involves balancing the powers of people and of state in what they call a Narrow Corridor - wherein the prevalence of freedom and fairness resembles that under Binmore's preferred social contract.

Acemoglu and Robinson trace the emergence of democracy in Britain ${ }^{5}$ from the Magna Carta of 1219 to the Reform Acts of 1832 onwards - and they highlight parallel developments in other European states. The case they use in their opening chapter to exemplify what they call the 'Shackled Leviathan' is, however, the United States:
... a state that creates liberty. It is accountable to society not just because it is bound by the U. S. Constitution and by the Bill of Rights, which emphatically exalts the rights of the citizens, but more important because

[^1]it is shackled by people who will complain, demonstrate, and even rise up if it oversteps its bounds. A \& R (2019, p.27)
(c) Dynamics of contest - or competing species?

No explicit model of dynamics is offered in their wide-ranging study, though paths lying outside the Narrow Corridor are portrayed as generically unstable as indicated in Annex 1 where their iconic diagram demonstrates the contrast between paths of positive progress inside the Narrow Corridor and divergent paths lying outside. ${ }^{6}$ Could it be that violating Binmore's conditions for a sustainable contract helps to account for (a) the limited dimensions of the Narrow Corridor; and (b) for what might occur outside this corridor? That is what we examine in this paper, using a biological model of Competing Species for the dynamics outside the corridor.

## (d) Metaphorically speaking

In an extended and illuminating review of the Narrow Corridor, James Fenske (2021) imagines himself in lively conversation with the authors, posing many questions and raising objections - weighty enough, apparently, to annoy one of the authors and bring things to a close! The approach taken here is a rather different. A better metaphor would be that of Ariel Rubinstein (2012), where contrasting mechanisms for resource allocation - the market or the jungle - are presented as competing courses delivered at imaginary universities. The two imaginary 'course offerings' we study here, both focusing on the good society (and various, less salubrious, alternatives), are closely complementary, however. So our objective is not to select between the two perspectives on offer. It is rather to develop a simple analytical approach that weaves together key elements of both - and brings out differences where relevant.

## (e) What is to follow

With this in mind, we begin in Section 2 with an area of close agreement - a situation where free and fair Social Contracts prevail, delivering liberty to the citizens thanks to an equitable balance of power between them and the state. A simple dynamic model is offered as a foil for what may happen in societies outside this happy state of affairs. The latter are considered in Section 3, where the focus is on the dynamics of divergence, and the diversity of long-

[^2]run equilibria where Social Contracts may not exist; or, if they do, are not 'free and fair'. Section 4 concludes.

Although both sources we cite avoid the use of equations, the authors nevertheless put diagrams and figures to good use, as indicated in Annex 1 for example, where the iconic figure is effectively a 'phase portrait' for the Narrow Corridor. Equations are used here - just enough to generate a comparable phase portrait!

## 2. Life with a free and fair Social Contract

(a) Two concepts of liberty

From the perspective of evolutionary game theory, Binmore concludes that, to be viable, social contracts must satisfy three conditions. First, they must be incentive compatible at the individual level (as in a Nash equilibrium); second, they must select an efficient equilibrium from the perspective of society as a whole (as in the Nash equilibrium of a repeated game with no definite ending); and finally they should also be 'fair' - according to the power relations of the society under consideration.

To help characterise 'free and fair' social contracts he poses the question: 'What are the countries in which people are happiest and most productive?'

They are the countries with constitutions that protect their citizens from tyranny, and guarantee the fair administration of justice. I don't think any of this is accidental or coincidental. I think evolution wrote a yearning for freedom and justice into our nature that no amount of social conditioning by the Stalins and Hitlers of this world will ever be able to eradicate. Binmore (2005, pp.138,9)

Lest this assessment be dismissed as parochial cultural bias, it should be pointed out that Binmore's characterisation of free and fair contracts is largely based on what is known - or can be deduced - of pre-historic hunter-gatherer societies before the transition to farming in the Neolithic Revolution that began about 10,000 years $B C$ !

In modern times, as noted above, Binmore credits the UK and the US with having free and fair social contracts in place; and these countries are both located securely in the Narrow Corridor by Acemoglu and Robinson. In light of this broad agreement, it seems appropriate to model conditions in the Narrow

Corridor as satisfying Binmore's three conditions, which is what we do in this section.

In so doing, however, we stress what Isaiah Berlin (1958), in an inaugural lecture on Two concepts of liberty, called negative freedom, i.e. the absence of interference - what he referred to as liberty from. (By contrast, the notion of positive freedom - liberty to - derives from the wish on the part of the individual to be his own master.) As we go to some length in this paper to examine the ways in which people may be deprived of their freedom, it is hardly surprising that liberty from plays a more significant role in defining life in the Narrow Corridor than the positive aspects (of liberty to) described in the monographs being studied ${ }^{7}$. It should be emphasized, therefore, that the formal framework described below is not designed to do justice to the positive aspects of life inside the corridor, but rather to act as the perfect foil for the negative features of life outside.

## (b) A plausible foil?

As regards life inside the corridor, our focus is on the analogy between the concept of fairness that Binmore includes in the definition of a desirable social contract and the delicate balancing of powers that Acemoglu and Robinson reckon is necessary for liberty. For analytical purposes, we follow Acemoglu and Robinson in assuming that social progress requires the coevolution of two forces or powers, as they call them, the power of society and that of the state; and that these must be kept in reasonable balance for successful coevolution to proceed. If so, they are said to lie in the Narrow Corridor - whose width defines the limits of imbalance.

Using the notation of $p$ for power of the people and $s$ for the power of the state, both constrained to lie between zero and one ${ }^{8}$, we assume for convenience a common pattern of logistic growth, that of population growth given a limited supply of land, so

$$
\begin{equation*}
\dot{p}=\beta^{*}(1-p) p \tag{1}
\end{equation*}
$$

and

[^3]\[

$$
\begin{equation*}
\dot{s}=\beta^{*}(1-s) s \tag{2}
\end{equation*}
$$

\]

This widely used process, due to Pierre-Francois Verhuist, implies that the growth of each power has a limit; and proves convenient for the later application of Competing Species dynamics to describe societies where the powers are in conflict.

As shown in Figure 1, the phase portrait for these equations, there are two stationary points, one at the origin and the other at $(1,1)$ where both powers are fully developed. The diagonal path linking them indicates what happens when both move in step; while the off-diagonal paths indicate what happens if one or the other is in the lead.


Figure 1 Coevolution with logistic growth
Given the acceleration of logistic growth around the half-way mark, any delay puts the laggard at a potentially significant 'power disadvantage'; with catchup coming only later as the leader asymptotically approaches its maximum. Could this competitive disadvantage not trigger what Acemoglu and Robinson dub the Red Queen effect 'where you have to keep on running just to maintain your position, like state and society running fast to maintain the balance between them' A\&R (2019, p. 41)?

It may be tempting to model the incentive effects involved, and how they may change the dynamics that drive progress: this is, indeed, what Acemoglu and Robinson (2017) do in their NBER working paper where the dynamics are those of a contest - rather like a patent race, where the winner takes all. As the
formal model plays so little explicit role in their later work, however, we leave on one side the detailed dynamics of contest. Instead, to capture the incentives to get ahead in a 'reduced form' manner, we simply assume that the speed of adjustment parameter $\beta^{*}$ in (1) and (2) is higher than that, labelled B, for each power outside the Narrow Corridor.

The notion of balanced expansion proceeding at an accelerated pace is captured most clearly by the diagonal connecting the two points of stationarity in Figure 1. But this is surely far too restrictive as a specification of the Narrow Corridor ${ }^{9}$. It can, however, easily be expanded beyond this special case to allow for some inequality.

Consider, for example, the case where one power proceeds as a constant fraction of the other. So, for example, let $p=\varphi^{*} s, \varphi^{*}<1$ where $p$ is the 'underdog' (i.e. the weaker power), as illustrated by the dashed line lying above the diagonal in Fig 2 which converges ultimately to the point ( $\varphi^{*}, 1$ ).


Figure 2 Closely balanced growth in a Narrow Corridor
Note that, if $s$ continues as in (1) above, this will require some speeding up in the dynamics of $p$, specifically

$$
\dot{p}=\left(\beta^{*} / \varphi^{*}\right)\left(\varphi^{*}-p\right) p
$$

[^4]This delivers the adjustment needed to compensate for the reduction in the long run capacity (from 1 to $\varphi^{*}$ ) and ensure matching growth ${ }^{10}$.

Given our emphasis on the negative sense of liberty - i.e. freedom from - what is important here is what is ruled out - so there is no coercion of people by the state, nor do the people prevent the emergence of a political hierarchy. There is, therefore, no Tyranny nor Justice bound, no War nor Desolation - features that Acemoglu and Robinson associate with Despotic and Absent Leviathans.

While there is no explicit modelling of positive interaction between the two powers, the increased speed of adjustment indicates that coevolution provides a positive externality. It has to be admitted that this characterisation lacks the frenzy of positive-sum competition in the contest model of Acemoglu and Robinson (2017) - involving the 'all or nothing' payoffs of the race for a new patent. It is perhaps more akin to the frescoes of Ambrogio Lorenzetti that they use to illustrate the nature and effects of Good Government in the city of Sienna, offered as an example of life in the Narrow Corridor, A\&R (2019, Chapter 5 with photo insert between pp. 268,9).

## (b) So why is the Corridor Narrow ${ }^{11}$ ?

In defining their corridor, Acemoglu and Robinson postulate a limit to the imbalance between the powers consistent with the peaceful coexistence characterised there - where, for convenience, we can take $\varphi^{*}$ shown in Figure 2 to indicate the corridor limit. If we are to assume that conditions in the Narrow Corridor satisfy Binmore's three conditions for the sustainability of a 'free and fair' social contract, how to explain why increased imbalance leads to unsustainability?

To do this, we first outline how exogenous events may change the set of Feasible Social Contracts available to society, and how this can change the existing equilibrium, using the terminology and analytical methods of Binmore (2005). We then discuss how, with no change in the set of feasible contracts, deviant behaviour can also threaten a change of equilibrium. In this way we can treat the structure developed by Binmore as supplying the philosophical

[^5]${ }^{11}$ Incorporating revisions suggested by Ken Binmore.
foundations for the limits to the Narrow Corridor that Acemoglu and Robinson describe, and for clues as to what may take place outside this corridor.

As a preliminary, the case where there is an unanticipated asymmetric expansion of the set of Feasible Social Contracts due to technological change is treated in the Annex 2, which serves to illustrate Binmore's logic. This expansion shifts the Nash Bargaining Solution from an initial equilibrium with equitable sharing, to one which is decisively more favourable to one of the parties. In the short run, the share of the party out of favour is 'protected' by the social indices (SI) associated with the original equilibrium. But this is not true in the medium run when cultural factors lead to a revision of these weights, as the revised Nash Bargaining Solution calls for a much lower ranking in society (lower SI) for the party out of favour.

Even without technological change that alters the set of feasible social contracts, however, there may be random patterns of behaviour that threaten the existing fair equilibrium ${ }^{12}$. In the hunter-gather context, for example, individuals 'acting bossy' may threaten a shift to other efficient but unfair equilibria. As Binmore indicates, such shifts can be checked by escalating 'punishment strategies' - first Laughter, then Boycotting and finally Expulsion that support the current equilibrium. The point at which such strategies get implemented effectively mark the limits to the imbalance of power consistent with the existing fair equilibrium - limits that correspond to edges of the narrow corridor of A and R ( as shown graphically by $\varphi^{*}$ in Figure 2).

This, we believe, is how the application of Binmore's social contract theory helps explain the Narrow Corridor. At the edge of the corridor, the bossy individual may conform or get expelled: if not, he or she can put the existing set of social weights under pressure they can no longer bear. What then?

One possibility is that, having disrupted the basis of the existing social contract, the unchecked seeker-after-power can impose what Binmore calls a Neofeudal social contract - in which he or she is given a much higher Social Index than before. So society retains a social contract, but one with a much more unequal distribution of power than before.

Alternatively, the breakdown of the original social contract may lead to the emergence of anti-social forces previously held in check - forces which can undermine the viability of any social contract. Specifically we assume that the

[^6]party favoured with greater power seeks to shift the set of Feasible Social Contracts so as to disfavour the other party. But determined efforts to 'disenfranchise' any opposition may well undermine the efficiency conditions needed for a sustainable social contract, rendering the set of Feasible Social Contracts empty.

How, when $\varphi<\varphi^{*}$, adverse outcomes may emerge ${ }^{13}$ to replace the norms of civilised societies enjoying freedom and justice, is what we examine next.

## 3. Paradise lost

In the sections that follow, the Competing Species approach ${ }^{14}$ is employed with two objectives in mind. First to see how, with no workable social contract, conflict can drive society to extremes of Despotism or Hobbesian 'warre': and second to study the operation of Neofeudal social contracts.
(a) The slippery slope to Despotism

The breakdown of social norms that hold its power in check can lead to everincreasing dominance by the state. As Acemoglu and Robinson put it ${ }^{15}$ :

Starting with greater initial levels of state and elite power than societal power ... the configuration favors the emergence of the Despotic Leviathan. Here the arrows travel towards yet higher levels of state power. In the meantime, the power of society gets eroded as society finds itself no match for the state. This tendency is exacerbated as the Despotic Leviathan works to emasculate society so that it remains unshackled. In consequence, over time the Despotic Leviathan becomes overwhelmingly powerful relative to a meek society. A\&R (2019, p.65) [emphasis added]

To construct a phase portrait that matches these words - and comes close to matching their iconic figure, we use a Competing Species approach to see how the state 'works to emasculate society'. The essential idea is that the state uses its power, in negative fashion, to slow the progress of the underdog - possibly to the point of extinction.

Consider the system where $s>p$, i.e. above the diagonal in Figure 3, so the state is 'top dog' and can impose adverse conditions that the people will no

[^7]longer have 'freedom from'. Assume specifically that it acts to reduce the growth of people-power by a term $\gamma s$ that reflects its own superiority, so:
$\dot{p}=\beta(1-p-\gamma s) p$
while its own state power evolves unchecked much as before, so
\[

$$
\begin{equation*}
\dot{s}=\beta(1-s) s \tag{4}
\end{equation*}
$$

\]

except that convergence is now slower than in the Narrow Corridor as $\beta<\beta^{*}$. How this affects the phase diagram is shown in Figure 3. The point of stationarity at the origin remains unchanged; but the other point of stationarity moves from $(1,1)$ to $(1-\gamma, 1)$, i.e. to the point where the 'isoclines' of the above equations, namely $s=1$ and $p+\gamma s=1$, intersect. If, for example, we set $\gamma=1$ so $s+p=1$, this gives the stationary point $(0,1)$ shown at the top left of the figure.


Figure 3 When power corrupts: and the off-diagonal dynamics it can induce While the origin is an unstable node, the other point of stationarity is stable ${ }^{16}$. Further detail of the dynamics can be obtained by sketching the phase portrait. Given the isoclines shown in the figure where $\dot{p}=0$ and $\dot{s}=0$, the directions of motion are obtained by recognizing that $\dot{p}$ and $\dot{s}$ take positive and negative values indicated by the arrows in the figure ${ }^{17}$.

[^8]Together with the nature of the fixed points, this suffices to construct the phase portrait ${ }^{18}$ sketched in Figure 3, with the stable point of convergence at $(0,1)$ where people-power is finally reduced to zero.

If one treats the suppression of people's rights and powers as corruption, one could say that the point of convergence bears out Lord Acton's dictum: "Power tends to corrupt, and absolute power corrupts absolutely"!
(b) The opposite case: Hobbesian anarchy

By condoning action to cripple state power, a breakdown of social norms prevailing in the Narrow Corridor can significantly reduce the power of a weak state in the long run. It may even lead to the elimination of state power in the Hobbesian case, captured here by setting $\gamma=1$.

To see this, consider the phase portrait for $\leq p$. As the people have more power, p continues much as before, so

$$
\begin{equation*}
\dot{p}=\beta(1-p) p \tag{5}
\end{equation*}
$$

except that convergence is now slower than in the Narrow Corridor as $\beta<\beta^{*}$. For $s<p$, however, the growth rate of the state will be impeded by $-\gamma p$, a term designed to capture how the people will try to 'cripple the power of elites', so

$$
\begin{equation*}
\dot{s}=\beta(1-s-\gamma p) s \tag{6}
\end{equation*}
$$

Assuming the 'growth-blocking' term $-\gamma p$ only applies for $s<\varphi^{*} p<p$, this will generate dynamics as shown below the diagonal in Figure 4 for the case where $=1$. This corresponds broadly with what Acemoglu and Robinson predict for the Absent Leviathan with a trajectory that
begins where society is more powerful than the state and can stymie the emergence of powerful centralized state institutions. The fear of the slippery slope ${ }^{19}$ implies that where possible, society will try to cripple the power of elites and undercut the political hierarchy, so the power of statelike entities declines further, and the Absent Leviathan gets established even more firmly. A\&R (2019, p.65) [emphasis added]

[^9]

Figure 4 When social norms operate - and when they break down, for $\gamma=1$
Overall, the phase diagram of Figure 4, based on the dynamics of Competing Species, broadly matches the dynamics of Acemoglu and Robinson, though it is rather more extreme in that the limit points occur only when the 'top dog' has absolute power.

Binmore has, however, alerted us to another distinct and disturbing possibility not discussed by Acemoglu and Robinson - that of 'smart Despotism' where a social contract remains in place - but not one that he would recognise as free and fair. Is this consistent with our dynamic framework?
(c) Neofeudal Social Contracts: dead men pay no taxes

After the conquest of Kansou by Gengis Khan, it is said that one of his Mongol generals proposed that the new Chinese subjects be put to the sword and the land converted into pasturage for the cavalry. What then?

It took all the skill of one of the sovereign's counsellors to reject this project. He had to demonstrate to the conqueror the advantages to be had from cultivated land and an active population. He enumerated in detail all that could be raised each year by taxes on land and on production. So it was that the conquered Chinese territories were saved from pillage, and divided in ten departments run by Mongol office-holders assisted by Chinese officials. Ardant (1971, p. 30)

In similar vein, it is on record that, in the 8th century AD, Calif Omar persuaded the conquerors of Iraq and Syria not to seize and divide up the land, but to
leave the conquered population in possession - so long as they paid kharadj (a land tax) and a capitation fee, Ardant (1971, p. 29).

Could this principle - that constraining the exercise of absolute power may sometimes pay a dividend - be what motivates the Neo-feudal Social Contracts that Binmore refers to? They may not be 'free nor fair', but they can promote efficiency and profit.

At first sight, it might seem that the formal framework we use here implies that - outside the Narrow Corridor - there are no viable social contracts. For, like the 'unworkable Utopias' in Binmore's diagram in Annex 3, the 'corner solutions' of outright Dictatorship and of Hobbesian 'warre' in Figure 4 have been analysed above as cases which fail to satisfy necessary conditions for sustainability.

But these corner solutions arise from setting a specific high value for 'growthblocking', both $\gamma$ terms being set at unity. For smaller values, the point of stationarity will move in from the corner. This is shown in Figure 6 for the case where the state as 'top dog' sets $1>\gamma^{n}>0$. (This has the effect of swivelling the isocline for $\dot{p}$ clockwise so as give a stationary point at ( $1-\gamma^{n}, 1$ ), where $1-\gamma^{n}$ gives some indication of the power imbalance relevant for a Neofeudal Social Contract ${ }^{20}$. ) So, we argue, a Neofeudalist Social Contract can exist if $\gamma^{n}$ lies sufficiently below unity.

So society will not be as fair as needed for the Social Contract inside the Narrow Corridor, but things are sufficiently well-organised as to satisfy the criteria for individual incentives and social efficiency; and the power imbalance is consistent with the power relations of the society as it has evolved.

[^10]

Figure 5 Long run equilibrium with a Neofeudal Social Contract.

While Soviet Russia may be identified with the corner solution of Figure 4, Russia under Putin might better be represented by the Neofeudal Contract of Figure 5. For, without going as far as Guriev and Triesman (2020) in claiming that 'informational autocracy' has replaced repression, it is clear that Putin has decided against the mass repression of Stalin, opting for a style of dictatorship which targets its violence on those - like Mikhail Khodorkovsky and Alexei Navalny - who dare openly to challenge Presidential power in political terms. China under President-for-life Xi Jinpeng represents another case of what we would regard as an unfair and unfree Social Contract; but in this instance there is no pretence of a multi-party system being in operation.

We conclude that Acton's Dictum is not the last word. Absolute power may well corrupt; but leaving the people with enough agency to run an efficient society may be better for the leader than crushing them completely.

## 4. Conclusion

Two accounts of what constitutes a free and just society have been discussed metaphorically like different, but complementary, courses at an imaginary institute of learning. So what has been learned from trying to weave them together?

Both accounts concur in describing a rather precarious Narrow Corridor where forces inimical to liberty and justice are held in check. To leave this safe space
is like passing a tipping point where 'top dogs' get unleashed to bully 'underdogs' - to use the analogy suggested by the Competing Species approach.

The alternatives to freedom and justice are however manifold. First of all, there is the key issue of who takes control: will it be an overweening state or will there be rule by the mob - a Despotic Leviathan or one that is Absent? (Currently, indeed, the risk of mob rule may have increased thanks to modern forms of communication that undermine the sustainability of Social Contracts, see Binmore, $2021{ }^{21}$.)

Beyond this basic divide, there is a key issue posed in the final Chapter of Natural Justice: how will overweening power be used? For those in control may choose to rule without a Social Contract, terrifying the people with unchecked repression like Stalin with the Gulag and the Great Terror. Alternatively, as 'smart' dictators, they may seek to promote a new Social Contract that harnesses the energy of the people so as to advance their own ends in 'top down' fashion.

The latter seems better to describe what Vladimir Putin and Xi Jinpeng seek to achieve. Rather than a collapse into anarchy or into Stalinesque repression the two prospects that Acemoglu and Robinson consider - it is surely the promotion of such Neofeudalistic conditions that, on the global stage, presently poses the main challenge to 'free and fair' contracts.

There is no denying that both accounts of the free and just society studied here are susceptible to Fenske's critique - of underplaying or ignoring the role of external pressures and opportunities. For more enlightenment on this, one might enrol in parallel courses on the rise and fall of empires; and on the risks of conflict that Thucydides warned of long ago, when Athens felt threatened by rising Sparta ${ }^{22}$.

[^11]
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## Annex 1 Acemoglu and Robinson's iconic diagram illustrating the Narrow Corridor

The framework of Acemoglu and Robinson (2019), reproduced in the Figure below, employs Hobbes's terminology, in that the term 'Leviathan' is used to refer to the state. The authors explain the variable on the horizontal axis refers to 'how powerful a society is in terms of its norms, practices and institutions, especially when it comes to acting collectively, coordinating its actions and constraining political hierarchy.' The variable on the vertical axis 'similarly combines several aspects including the power of political and economic elites and the capacity and power of state institutions', A\& R (2019, p. 63).


Figure A1 The evolution of Despotic, Shackled and Absent Leviathans
As illustrated in what is essentially a 'phase diagram', they distinguish three 'regimes', one of progressive Disorder, another of growing Despotism (shown respectively below and above the diagonal), leaving a Narrow Corridor for positive Democratic development in between.

It should be added that these dynamic paths are subject to substantial shocks - treated as discrete changes in 'initial conditions' - the collapse of the USSR (with the end of the explicit monopoly of the Communist party) to take a recent example. In general, such shocks can have substantial long-run effects as they may lead to 'crossing the border' from one regime to another. Not in this specific case, however, as the view expressed by the authors is that the degree of State power in Russia, though diminished, is still too great for democracy. So Russia still lies outside and above the Narrow Corridor, A\& R (2019, p. 268). ${ }^{23}$

Unsurprisingly, China is located there too; while the US and UK are placed within the Narrow Corridor.

## Annex 2 Fairness: Technical Progress and the case for Levelling Up

Using the framework outlined in Natural Justice ( based in turn on Chapter 4 of Just Playing, Binmore, 1998), we outline the impact of an unanticipated asymmetric change in possibility set of social outcomes, designated as the set of 'feasible social contracts', FSC. Using what Binmore calls the Egalitarian approach, ${ }^{24}$ the implications for a 'fair' social contract in both

[^12]short and medium term are indicated below. This leads to an obvious interpretation of the call for Levelling Up.

The fair outcome following an exogenous asymmetric change in the possibility set


Figure A1. The fair outcome given by pre-existing social weights
(1) Given $X$, the original FSC, find Nash bargaining solution of the coordination problem, see N.
(2) Choose the Social Indices, SI, (i.e. societal weights on each player) to make Egalitarian solution, E coincide with $N$. This involves choosing weights so as to determine the ray from $D$ which intersects the boundary of $X$ at $N$, where the slope of the ray is (SI Eve)/(SI Adam), roughly $1 / 2$ in the Figure.

Now assume there is an exogenous 'manna from heaven' technological innovation which favours Adam as it expands the set from $X$ to $Y$, see Figure.
(3) The Egalitarian solution for the fair social contract is where the ray from $D$ to $E$ intersects the boundary of Y at F (i.e. with SI adapted to pre-existing feasible set X )
(4) In the medium run, it is argued that cultural evolution will eventually change the SI so that they adapt to the new Nash bargaining solution N'. As this requires shifting consumption towards Adam away from Eve, it requires a flatter ray from $D$ through $\mathrm{N}^{\prime}$, involving a lowering of Eve's SI relative to Adam's.

## Technical Comment

As constructed, the Egalitarian account implies a more equal distribution of consumption in the short run than the Utilitarian solution, shown at V in figure 1 . This is because it does not
closely follow the rightward shift of the possibility set as the Utilitarian account does. As it happens in this instance that the U solution at V and the E solution lie on opposite sides of the medium term Nash bargaining solution, they both call for a rise in Adam's SI in the medium run.

## Application to Levelling Up

Let Eve represent those Left Behind in UK society, i.e. those who have not benefitted from 'manna from heaven' Technical Progress as the group represented by Adam has.

Questions: Will the situation threaten the social fabric? what, if anything, need be done? Answer: As indicated, those Left Behind do get an increase in welfare in the short run. But the medium run Nash Bargaining Solution is less favourable than the short run outcome. This is because the current egalitarian norms call for a fairer sharing of consumption than the asymmetric evolution of the FSC will imply.

One interpretation of Levelling Up is that it is an attempt to avoid this essentially by correcting for the asymmetric nature of the expansion of the FSC? If the Levelling Up was to lead to a uniform expansion of the FSC X, for example, then not only will the associated Egalitarian solution be more generous, see F in the figure below; it will also prevail into the medium term as it coincides with the Nash bargaining solution, see $\mathrm{N}^{\prime}$ in the figure.


Figure A2. Fair outcome with (ultra) successful Levelling Up

Annex 3 If contracts are not free and fair, what then? Binmore (2005, chap 12).
What should one expect of conditions outside of a Narrow Corridor in which liberty and justice prevail? What is it that a free and fair Social Contract provides freedom from?

The final chapter of Natural Justice, where Binmore categorizes political attitudes in respect of how they rate freedom and fairness, provides an answer, summarized in Figure 3 below.


Figure A3 Binmore's classification of political attitudes - with 3 specific cases
Binmore is explicit as to his own preference for a 'free and fair' social contract, shown at the top of the diagram and dubbed as Whiggery (after the political party that opposed the Tory party in Parliament in the 18th century). On the bold assumption that Whiggery corresponds to life inside the Narrow Corridor, the rest of the Figure indicates what is to be to expected outside - i.e. the unpleasant regimes that the Narrow Corridor offers freedom from.

There are evidently two broad possibilities.

## 'Neofeudal' contracts

First is the operation of social contracts in societies that delegate the coordination of collective decisions to individuals or elites. While unattractive to those with 'whiggish'
preferences, such Neofeudal contracts must, by definition, satisfy the three prerequisites of stability, efficiency and fairness - specified earlier.

In this context, however, fairness will reflect the existing power relations of the society in question - not the egalitarian relationships thought to have characterised hunter-gather societies, nor those prized highly by those with Whiggish preferences!

## Unworkable utopias

The other possibility is that of 'unworkable utopias', be they of left and right. The left-wing vision, labelled utilitarianism, is dismissed as unworkable 'because nothing can prevent the bosses in an authoritarian society from becoming acquisitive'; while the right-wing vision, of libertarianism, 'because possessions cannot be held securely in an anarchic society'25.

That such utopias are impractical is implicit in the label itself. For Binmore, however, unworkability needs to be demonstrated with reference to his specified prerequisites for a social contract to be sustainable. Thus we are warned that utilitarianism 'won't work because it fails to recognise the first priority'; and, even if it is modified to take account of individual incentives, there will still be trouble at the next level - social efficiency. This point is made forcefully with the aid of a specific example - Soviet Russia.
'An efficient social contract will necessarily grant a substantial amount of freedom to a wide variety of freedom to a wide variety of individuals at all levels of the production process. ... The fall of the Soviet empire makes it unnecessary to press this point further. Even erstwhile Marxists now agree that command economies are hopelessly inefficient. This would seem to be one of the few clear lessons that history has to teach. Some measure of individual freedom is a necessary condition for an innovative society. Binmore (2005, p. 189)

The critique of right-wing libertarians is mainly directed at those who 'think that everything should just be left to the market', and starts with the observation that state power is needed to protect the property rights of entrepreneurs. This is supplemented with the difficulty of securing efficient bargains when information is not evenly shared and the need to regulate monopolies, to mention two further issues that count against libertarianism per se providing a viable social contract.

[^13]
[^0]:    ${ }^{1}$ Acknowledgements: While responsibility for views expressed rests with the authors, we are grateful to Daron Acemoglu, Ken Binmore and James Fenske for incisive comments.

[^1]:    ${ }^{2}$ See Annex 3 for more detail and exposition.
    ${ }^{3}$ bringing to an end the Stuart succession with its hankerings for the 'divine right of kings'!
    ${ }^{4}$ with Soviet Russia providing a grim example of a failed utopia of communism.
    ${ }^{5}$ already analysed in their earlier study of the Economic Origins of Dictatorship and Democracy (2006)

[^2]:    ${ }^{6}$ Although this iconic 'phase diagram' draws substantially on a mathematical model of contest in the unpublished NBER of the co-authors, A \& R (2017), little is said of this background paper in the volume.

[^3]:    ${ }^{7}$ as for example, in the Allegory of Good Government, A \& R (2019, Chap. 5) and The Golden Rule, Binmore (2005, Chap, 9).
    ${ }^{8}$ as in the background paper, Acemoglu and Robinson (2017)

[^4]:    ${ }^{9}$ As was pointed out by Daron Acemoglu, commenting on a previous draft of this framework.

[^5]:    ${ }^{10}$ For $>s$, so $p$ is 'top dog', the same logic will lead to convergence to the point shown as $\left(1, \varphi^{*}\right)$ in Figure
    2.

[^6]:    ${ }^{12}$ See the discussion of 'evolutionary drift' in Binmore (2021).

[^7]:    ${ }^{13}$ More details, and an expositional figure, are presented in Annex 3
    ${ }^{14}$ As described in Arrowsmith and Place (1992, Chap. 5), for example.
    ${ }^{15}$ with reference to their iconic diagram, shown in Annex 1

[^8]:    ${ }^{16}$ Established formally by examining the eigenvalues of the linearized system of dynamics $\dot{\boldsymbol{y}}=\boldsymbol{W} \boldsymbol{y}$ at $(0,1)$, where $\boldsymbol{y}$ are the local coordinates at the fixed point, Arrowsmith and Place(1992, p.181).
    ${ }^{17}$ and note that $\frac{d s}{d p}>1$ where $\mathrm{s}=\mathrm{p}$

[^9]:    ${ }^{18}$ As the Narrow Corridor offers 'freedom from' such aggressive behaviour, the divergent phase path is only shown for points outside it.
    ${ }^{19}$ i.e. to Despotism

[^10]:    ${ }^{20}$ Note that the isoclines do not meet on the diagonal as the growth blocking term for the regime below the diagonal, where the People have more power, has not been changed.

[^11]:    ${ }^{21}$ The use of social media to coordinate an attack on Congress when voting on a handover of power in January 2021 is an example of what he has in mind.
    ${ }^{22}$ As in Allison (2017), for example.

[^12]:    ${ }^{23}$ This is a much more gloomy assessment than that implied by the 'theory of informational autocracy' of Guriev and Treisman (2020).
    ${ }^{24}$ as relevant when there is no adequate external enforcement, see Binmore (2005, p. 175).

[^13]:    ${ }^{25}$ i.e. what Acemoglu and Robinson might label as 'the lure of Despotism' and the 'threat of lawlessness' respectively.

