The Military System of Democracies I: Man without Society

A leader without either interest in or knowledge of the history and theory of warfare – the intellectual concept of his profession – is a leader in appearance only. … after all, an officer's principal weapon is his mind.

ALFRED M. GRAY (1989 / 1995, p. 67)

One of Machiavelli's assumptions, although it is never clearly articulated, is that an army tends to reflect the quality of the civil society of which it is a part.

NEAL WOOD (1965, p. LXXII)

The Fundamental Restriction and Its Impact on Human Existence

The fundamental **restriction** of human life

1

(1) The human **mind** with its mental capacities like **rational thinking** – developing a consistent life concept and acting accordingly – and **communication** evolved during the **evolution** of man because it improved the chance of survival.

(2) Neuroscientists like DANIEL WOLPERT[1] suggest brains originally developed to coordinate **movement**. Movement implies connecting a spatial status quo and a desired position by a corresponding action. As the evolution of man progressed, their brain capabilities extended to fulfil related functions. In particular, the mind **facilitates** two main types of actions, **cooperation** and **conflict** (refer below), by offering the possibility to the player to "imagine himself" in the "shoes" [2] of others – partners and opponents alike.

(3) However, human minds are irrevocably **tied** to a biological **body**.[3] This represents the fundamental restriction of human existence.

Implications of the fundamental restriction: **Bounded rationality**, **self-interest**, **scarcity** and others

2

(1) The importance of the fundamental restriction can be underlined by its major **implications** for all human actions. "**Vita brevis est**" and each life features three phases: A period to **grow up** (focusing on learning), a period of **maturity** in which skills are in their **prime** and a period of **decay** – ending in death.

(2) To offer the best chance of survival and reproduction, each biological body possesses a genetic **code** facilitating the choice of actions – particularly in a case of emergency. The driving force behind this behavior code can be called "**self-interest**"[4].

(3) Body and mind are continuously exposed to evolution. Consequently, men **differ** in skin **colors**, **body shapes**, **habits** etc. These differences offer **advantages** or **disadvantages** in specific environments.

(4) Perceptions of oneself, others, the environment and actions must remain **subjective**. The memory of the past is incomplete, too. Thus, there is **no objective truth** feasible, only a "**fuzzy consensus**"[5].

(5) The human body needs periods of **regeneration**. In addition, the body functions consume a specific amount of energy. Most of it is covered by **nutrition**.

(6) To realize goals, persons or resources often have to change their location. In general, the range of these movements is limited to Earth resulting in a **scarcity** of **resources** available. In addition, it very often takes time, effort and other resources to transform resources to the state required by the respective action. This combination is called **production**.

Basic reactions to the fundamental restriction: **Life concepts** and **coordination** in cooperation and conflict

3

(1) The fundamental restriction and its implications force two major reactions. First, the inevitability of death and the uncertainty about afterlife – "from which no one has returned"[6] as already emphasized by the ancient Egyptians – urge man to develop rational life concepts. Second, humans must engage in two basic types of interaction: Cooperation and conflict.

(2) Earth is offering a vast number of different environmental settings. In addition, the number of human beings available as potential partners for interactions is also huge – in particular, in modern times. Thus, a myriad of actions is available to each individual each day. Rational **life concepts**[7] imply to focus on those activities that offer a unique and rewarding experience by developing a person's physical and mental potential in accordance with their individual preferences – in short, a consistent plan of actions for the full life span that will most likely result in minimum regret.

(3) To support humans in their pursuit for successful and sustainable life concepts, the various **sciences** have evolved over the course of history: In general, science analyzes the challenges to human existence and develops means to diminish their impact. E.g., **philosophy** is looking for principles to live a life that not only offers minimum regret, but that is also morally justified. In **physics** solutions are developed how the environmental forces can be used to the best advantage and how natural disasters may be avoided – or, at least, their impact on human existence can be optimized.

(4) The restriction and its implications also force humans to engage in two basic types of relationships: **Cooperation** and **conflict**. E.g., acquiring and training social skills requires the **support** of the family in childhood. In contrast, **scarcity** always implies a conflict because the different options to use a resource **exclude** each other.

(5) **Cooperation**: The parties involved share some common interest, but a coordination effort is still needed because of missing information, differences in preferences or diverging incentives to participate due to differing cost structures.

(6) **Conflict**: The parties perceive themselves as opponents because every option available to solve the issue **seems** to imply that **only** one side receives benefits (the **winner**) while the other party is forced to accept a reduction in its welfare (the **loser**).

(7) In reality, the **borders** between conflict and cooperation are **blurred**: As an example of conflicts featuring elements of cooperation, consider the case of soldiers preferring to fight in a war where the rules for the treatment of captives are respected. Analogously, a cooperation offering mutual benefits may not be realized because the incentive to shirk is too strong and no counter design can be enforced.

The Point of Reference for Societies: The Original Position

The spectrum of „**original positions**"

4

(1) To highlight the impact of the fundamental restriction on the design of human actions (in particular, the design of societies), philosophers like JOHN B. RAWLS introduce the concept of the **original position**[8]: A hypothetical situation stripped off all institutions or organizations facilitating the life of man.

(2) There exist several **versions** of the original position. These differences are caused by the weight the respective analyst attributes to conflict and cooperation – based on their assumptions about the "essence of man". On the one extreme, there is **Hobbesian anarchy**, denude of any cooperative element and causing the untamed self-interest to make "life of man, solitary, poore, nasty, brutish and short."[9] The other extreme is "**paradise lost**"[10] – as described, e.g., in the Old Testament: Death, imperfections in mind and body or scarcity are non-existent. Instead the individuals are able to enjoy cooperative relations exclusively based on love / charity.

Approximating the original position: Cooperation and conflict in **"pure" evolution-driven scenarios**

5

(1) Which setting is more appropriate as the original position? Like any competing approach in politics or social sciences that survives "the test of time" (the respective concept is still attractive to a significant number of persons even after being tested in daily routine), each of the two scenarios can at least claim to possess an **element of truth**.

(2) The **evidence** for **Hobbesian anarchy** is backed by referring to the behavior of man's biological relatives: Gangs of chimpanzees are known to ambush and kill outsiders for their meat. [11] In addition, there exist prehistoric incidents like the massacre of Talheim[12] that happened around 5'000 BC in the southwest of modern Germany. While some archeologists point out that the findings at Talheim, Ofnet or other places have been misinterpreted and the massacres actually represent "burial rites"[13], **violence** still represents an **inherent part of human existence**.

(3) "Everywhere we probe into the history of our species we find evidence of a similar pattern of behavior: People have always been capable of both kindness and extreme cruelty. The search for an earlier, less-violent way to organize our social affairs has been fruitless. All the evidence suggests that peaceful periods have always been punctuated by episodes of warfare and violence." [14]

(4) The investigation into the evidence for **cooperation** as a vital factor in the original position is inspired by BRIAN SKYRMS' analysis on the **human sex ratio**:[15] At the date of birth, an excess of male newborns over female babies exists. As adulthood approaches, this excess withers away due to the higher mortality rate risk-loving males experience during youth. Thus, the relationship turns to **parity** between **males** and **females** as they enter the stage of sexual maturity. At later life stages the balance shifts again – but then in favor of female excess.

(5) In accordance with the evolution theory by CHARLES DARWIN, such ratio patterns are to be interpreted as contributions to optimize reproduction conditions. [16] E.g., perhaps the excess of females in the elderly population occurs, because the skills of males are later deteriorating in regard to their primary functions like hunting or protection and one parent is enough to support their offspring when the latter rear their own children. The following sections seek to illustrate how an economic perspective on such design features of reproduction like the sex ratio explain the significance of cooperation in the original position. In particular, the analysis is able to highlight the link between the evolution as a force and the most basic social construct to support cooperation becomes visible: The **family**. However, to achieve this objective, a general approach to investigate the design of actions in cooperation and conflict is required. Because this " **general formula**" of human actions will later be "fleshed out" to characterize the **military** as a **subsystem** of (democratic) **societies** – refer to section [XXX], the next two sections will offer an overview of this approach. In turn, the illustration of cooperation as a part of the original position by investigating important design features of reproduction is postponed to [XXX].

Elements of rational **actions**

6

(1) The general formula is based on the following insights: The **fundamental restriction**, the indissoluble union of mind and body, exposes man to the forces of the evolution and limits man's capabilities and rationality: In particular, man is only able to **perceive** the **world of man** as pointed out by IMMANUEL KANT.[17] Thus, CONFUCIUS sees the first condition for successful actions in an (approximate) clear-cut **system** of **definitions** to grasp the forces determining the outcomes. [18]

(2) According to TALCOTT PARSONS, the **structure** of the human world can be identified by applying the perspective of **system analysis**:[19] What **functions** may a specific phenomenon fulfill in the various life concepts of individuals who are – due to the evolution – significantly or even mainly motivated by **self-interest**? The first major result of this perspective lies in the identification of the general configuration of rational actions as a **sequence of six steps** – refer to PETER BALTES.[20]

(3) Section [XXX] provides a detailed analysis of the action sequence. Here it suffices to point out that its six steps can be labeled with a) **objectives** – b) **analysis** – c) **planning / decision** – d) **preparation** – e) **implementation** – f) **evaluation**. Furthermore, the cornerstones deciding about the success potential of a specific action are represented by three "intermediate outputs" in the action sequence: In the mental dimension these are the action's **objectives** and its **strategy** (the plan to coordinate the single moves chosen to change the status quo into the preferred state). In the real dimension it is the action's **organization**, i.e., the (optimal) arrangement of inputs required to implement the action. The compatibility of a specific action with the corresponding player's life concept can be assessed by checking the action's potential contribution to the four **basic categories of objectives** in life that each life form has to pursue in reaction to the fundamental restriction – compare to A BRAHAM H. MASLOW'S similar "hierarchy of needs"[21]: a) **Life sustenance** to keep mind and body operational, b) **protection** against threats stemming from the animate and inanimate environment, c) **development** of life concept and skills (this third category also includes recreation) and d) **reproduction**. The next schema will continue by exploring strategies and organizations from an economic point of view.

The General Formula of the "Actions in Systems Approach": An Overview

The Military System of Democracies II: Cooperation in the Original Position

… as Goethe expressed it, "in order to spend on one side, nature is forced to economise on the other side." … I suspect, also, that some of the cases of compensation which have been advanced, and likewise some other facts, may be merged under a more general principle, namely, that natural selection is continually trying to economise in every part of the organization. If under changed conditions of life a structure, before useful, becomes less useful, its diminution will be favoured, for it will profit the individual not to have its nutriment wasted in building up a useless structure.

CHARLES DARWIN (1859/1959, p. 295)

The General Formula of the "Actions in Systems Approach": An Overview (continued)

Strategies and organizations – the basic **trade-offs**

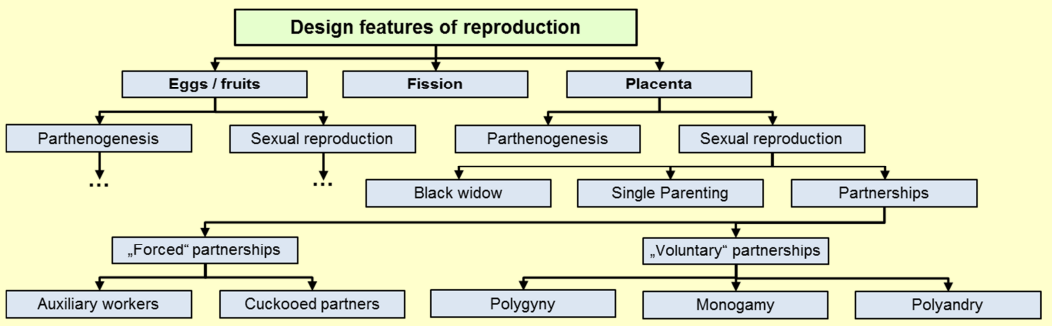
(1) In the world of man, the **effect of nothing is nothing**. Hence, strategies and organizations seeking to change the status quo in accordance with the objectives must focus on the **resources** required to achieve this goal: The **human players** as active participants or affected stakeholders, **material inputs** (like land or machines) and **immaterial inputs** (like knowledge and reputation).

(2) As stated in the previous sections, the fundamental restriction forces all human actions to feature elements of cooperation and conflict. Thus, depending on how the respective perspectives of the players – the " **I**", the "**us**" and the "**them**" (the significance of this differentiation will become clearer in [XXX]) – are weighted in specific strategies or bundles of strategy, four basic types of **relationships** between human players can be distinguished: a) **symbiosis** (a weak form of cooperation), b) **teamwork** (explicit cooperation), c) **competition** (conflicts restricted by rules to peaceful resolution) and d) **breaches** of the social contract, based on fraud and violence – the concept of the social contract will be explained in section [XXX].

(3) In regard to the resources employed, any strategy or organization must come up with **design solutions** to the following questions (the latter determine the main elements of MICHAEL E. PORTER's so-called **value chain**[22]): a) Should this particular resource be acquired? b) If yes, should it be used now or modified / improved or stored? c) Should it be kept in possession, recycled, dumped or sold? In this context, the **scarcity** of resources confronts any design solution with **three** principal **trade-offs**.[23] The **first trade-off** consists in the fact that **unbounded ends meet limited means**. This insight is usually illustrated in textbook economics with the concept of the production-possibility frontier – refer to section [XXX]: Even in a scenario without retooling costs or information issues, the output production in the economy is limited by its current endowment of inputs. This forces the players to focus on **efficient** solutions – i.e., avoiding the waste of resources. Furthermore, this restriction implies that – in the state of efficiency – the **increase** in one type of output **always** requires the **sacrifice** / reduction of other outputs. For example, the modernization of the Swiss air force automatically calls for reductions in other military or civilian (public or private) programs. The **second trade-off** sees the Clausewitzian impetus on the **concentration of forces**[24] in time and space colliding with the advantage of **flexibility** in the face of imperfect or asymmetric information. Physical, mental or organizational forces achieve maximum impact by concentration because any diffusion in time and space increases their vulnerability to counterforces – even when the main objective lies in the establishment of credible signals. That is why FREDERICK THE GREAT preferred redoubts / strongholds to systems of trench lines in defense operations[25] or HEINZ W. GUDERIAN forged the motto of "Klotzen, nicht kleckern" in tank warfare [26]. However, the concentrated employment of scarce resources also unavoidably results in losses of flexibility. Flexibility is important to decision makers confronted with imperfect or asymmetric information because the original decision may become suboptimal after the revelation of new information – which in turn may make it necessary reallocate the resources already committed. Such adjustments feature costs because of a phenomenon called **entropy**[27] – the transformation of an object from one state to another in the real dimension cannot be achieved without a loss of energy. For example, turning swords into plowshares results in costs of retooling / conversion because of the effort required and because a certain amount of the material will be irrevocably lost to future usage (" **sunk costs**"). In addition, there is the issue of **mental inflexibility** – the focus on a certain topic facilitates the development of analogies, but it also makes the decision maker less receptive to approaches originating from non-related areas. In contrast to these "active" forms of entropy, its "passive" aspects are covered by the concept of **time**: The world of man features animate as well as inanimate entities continuously exposed to entropy (" **aging**"). Furthermore, a subset of these elements is capable of non-deterministic behavior or even rational actions. The combination of these features is often perceived by humans as **chaos** – implying any set of these entities is actually **unique**. The attempt to order these sets of entities in a sequence is called "time". The uniqueness of combinations in time has already been highlighted by the Greek philosopher HERACLITUS in antiquity: "No man ever steps in the same river twice"[28] while Its significance to military operations is stressed by the Prussian general AUGUST N. GNEISENAU: "We may recover space, but never the time lost."[29]. The blend of active and passive aspects of entropy implies that decision makers are confronted with **cost of delay** – the optimal point in time to act (based on a corresponding concentration of forces) has been missed and the impact of the delayed action on the status quo is less than it could have been at an earlier point in time. However, there also exist the benefits of **"wait and see" strategies**: A new technology may become available in the future that transforms previously impossible approaches into sound strategies. Or the information about other players like consumers in markets or opposing forces on the battlefield improves and offers the chance to formulate a more effective strategy because it reflects the "true" conditions. Since the 1980s, financial economics develops a valuation instrument to derive optimal **timing** decisions for investments in the face of the concentration-flexibility trade-off – the **real options approach**.[30] It is based on the analogy between investment projects and options as financial instruments – the latter insure investors against excessive market risk in the price development of underlying assets like shares, bonds or commodities. Options offer the right to perform a specific transaction in the future – thus, it does not imply an obligation to act. E.g., the owner of an option may buy 100 shares of the underlying asset at a (fixed) "strike price" in three months or they may not. Similarly, investment projects offer the opportunity to start a business operation in the future for a fixed amount of money – the initial investment / outlay. However, the value of this analogy between options and investment projects is linked to the validity of the pricing model used to determine the price of options. There are **doubts** that the model of option pricing – taken from physics and centered around the random movement of particles in space – is able to reflect the interactions in economies or even societies; even when adjusted to the experience of market developments in the past. [31] The **third trade-off** in strategy or organizational design compares the benefits of **division of labor arrangements** with the benefits of **independence**. Economists like ADAM SMITH[32] and DAVID RICARDO[33] highlight how the division of labor is superior to a "jack in all trades" approach because of a) different natural conditions of production, b) the differences in the natural skills of the players or c) simply because of the limited time budget available. Division of labor also enhances skill improvements because d) specialization increases the so-called impact of the "experience curve" [34] – production costs are reduced by learning through repetition: e.g., mistakes and waste are avoided or more efficient work arrangements are identified. In addition, division of labor reduces retooling times, increases the possibility of critical feedback by cooperation partners positioned up- or downstream the value chain. Finally, it offers a bigger pool of potential partners for mutual insurance arrangements. In contrast, independence naturally avoids the coordination effort required in division of labor arrangements – for example, the **shirking** problem under asymmetric information (see section [XXX] for the details). It also reduces the **resistance to reforms**: The reform of a division of labor arrangement will most likely see winners and losers with the latter trying to block the reform. In contrast, a jack in all trades is only interested in the reform's net effect.[35] Finally, independence can avoid costly double structures that may emerge because of political, cultural or personal rivalries. Instead it advances **synergy** effects by corresponding "overhead structures".

Cooperation in the original state: The example of **reproduction design**

(1) To highlight the significance of cooperation in the original position, this formula is now applied to explain vital design features of reproduction in evolution-driven settings.[36] In general, the evolution seeks to maximize the probability of reproduction for the "**fittest**" species – i.e., in regard to the three other basic objectives of life (life sustenance, protection and development), these species develop strategies or (organizational) features that are able to make the most out their specific environments. [37] It can be shown that the features identified represent reactions to the trade-offs the evolution as "designer of life forms" faces due to the fundamental restriction. Furthermore, the design features can be brought into a hierarchical order – refer to the different levels of the "**decision tree**" on the right.



(2) However, in comparison to the vast variety encountered in nature, the following explanations derived from the general formula should be seen as basic trends or even stereotypes. On the **first level**, the benefits of speeding up the independence of the offspring are weighted against prolonged periods of care and protection. In turn, prolonged periods allow to rear up offspring of greater complexity in appearance and skills. The first approach, **fission**, implies the immediate creation of another full-fledged entity. Thus, fission is only available to the most primitive forms of life – e.g., Paramecia. The second approach focusses on the benefits of early independence by relying on **eggs** or fruits as shelters and nutrition depots. These require significant initial investments but reduce the resource requirements for the parents at later stages. This solution also lowers the emotional stress on the parents – in particular, the feeling of being overwhelmed by their new role as parents (refer to the phenomenon of postnatal depression). On the other hand, this solution increases the offspring's vulnerability to threats like predators or unfavorable environmental conditions. In addition, eggs or fruits imply a lower level of control over the offspring's successful development and even reduce the quality of feedback. Consequently, "egg solutions" often resemble " **grapeshot**": The **number** of offspring has to be **maximized** because of its high vulnerability. The third alternative consists in offering protection and additional nutrition by sheltering the fetus in one of the parent's body for the most critical phase of their development – the **placenta** serves as the corresponding "interface" for most mammals. Thus, the number of offspring and the resources required as initial endowment can be reduced because of the prolonged phase of interaction. But the placenta also implies a higher burden (e.g., the weight of the offspring or its nutrition) as well as increased risk (reduced mobility in confrontations with predators or prenatal complications) to the parental "carrier" – the military or business connotation is intended to illustrate the generality of this analysis. On the **second level**, the focus shifts to the act of reproduction. In this context a first element of cooperation is introduced by the evolutionary impetus for **genetic variation**. In general (with the exception of emergency situations where species are brought to the verge of extinction), the **sexual combination** of "female" and "male" animals or plants to produce offspring should be considered superior to **parthenogenesis** – i.e., the reproduction by a single parent. First, the combination lowers the danger of inheriting **genetic defects**. Second, it offers a higher probability of **mutations** that may represent better adaptations to an ever-changing environment on Earth that has already seen several waves of mass extinction: It is estimated that less than two percent of all species which have ever existed still live today. [38]

(3) The **third level** concentrates on the coordination effort in the **phase after mating**. **Three basic types** of arrangements exist: a) The concept of the " **black widow**" – the male is devoured by the female. This boosts the initial resource endowment available to develop the offspring. b) The couple immediately separates after mating; the offspring is raised by only one parent (" **single parenting**") and perhaps released to independence as soon as possible. This represents a preferable approach to the black widow concept, when the required resources to produce mature males are significant due to their complexity. In such cases, they should be available as mating partners for several mating seasons. However, their potential contribution to protect and to rear the offspring is low. c) The third option introduces a **division of labor** arrangement where one party focusses on the role of the offspring's carrier and the other party concentrates on protection and food. Here, two approaches are possible: Either mating partners, strangers or relatives are induced by corresponding **incentives** to "**voluntarily**" participate in this operation – or they are more or less **forced** / **tricked** to do so. The latter is, for example, the case for worker bees that – due to genetic modification – are not able to produce their own offspring. This in turn reduces their incentive to "oppose" their role as servants caring for the offspring of others – the sentence draws an analogy to the historical role of eunuchs in the Byzantine, Chinese or Ottoman administration. In contrast, birds that have been successfully targeted by cuckoos as step-parents possess perfectly aligned incentives with their "oppressor" due to their ignorance of the true circumstances. In the case of the voluntary division of labor arrangement, there exist again **three basic design options**. In general, preference for one of these designs may be determined by the actual ratio between potential female and male partners available. In a setting with human players, this ratio may have been affected, e.g., by casualties of war – as the historical background to the marriage rule in the early Islamic society illustrates which allows one man to marry up to four wives.[39] a) **Polygyny**[40] – one male is combined with a "harem" featuring several wives. This option offers the signal that the male possesses particularly attractive genes because it has been able to succeed in a competition against his rivals. But this option also implies a reduced level of care, protection and supply the "pasha" is able to offer to each single female and offspring. In short, polygyny focusses on the male's function of reproduction and discounts his support skills – for example, it is the lionesses which do most of the hunting. b) **Polyandry**[41] – one female is joined by several male partners. This arrangement helps to counter a particularly dire / hostile environment and encourages the specialization in various skills among the males. On the other hand, it lowers the identification of the male with the offspring – and hence, his motivation to support it. c) Consequently, **monogamy** represents a middle road approach with the maximum incentive to rear the own children in constellations featuring a voluntary division of labor arrangement. All the designs discussed here can be observed in nature – an illustration of how the **evolution** favors **multiple equilibria** to enhance biodiversity in the face of the great variety and dynamism in natural environments. Even the three arrangements of polygamy, polygyny and monogamy exist as accepted **family** institutions in different cultures. In addition, adultery is a common experience among humans. However, section [XXX] will show why in the case of rational human beings living under the social contract in societies the **combination** of evolutionary forces and morality results in an " **unstable equilibrium**" with **monogamy** as the principal cooperation arrangement – see section [XXX].

The Military System of Democracies III: The Emergence of Morality

The lethal silver fish will fly. // This boat will shiver – men will die. // A cast of millions – a part to play. // Killer? Victim? Or fool for a day. // Obeying an order – men have to die. // Us or them – a well rehearsed lie. … The lifeboats shattered – the hull is torn, // the tar black smell of burning oil, // on the way down to Davy Jones, // every man for himself – you're on your own. // The wolf eyes watch the crosswire: "Stern tubes ready", "Aim and fire!" // They can pin some medal on your chest, // but in two more weeks – dead like the rest.

IRON MAIDEN (1990, Run silent, run deep)

Even if a people were not forced by internal discord to submit to public laws, war would compel them to do so … Now the republican constitution is the only one entirely fitting to the rights of man. But it is the most difficult to establish and even harder to preserve, so that many say a republic would have to be a nation of angels, because men with their selfish inclinations are not capable of a constitution of such sublime form. … The problem of organizing a state, however hard it may seem, can be solved even for a race of devils, if only they are intelligent. The problem is: "Given a multitude of rational beings requiring universal laws for their preservation, but each of whom is secretly inclined to exempt himself from them, to establish a constitution in such a way that, although their private intentions conflict, they check each other, with the result that their public conduct is the same as if they had no such intentions." A problem like this must be capable of solution; it does not require that we know how to attain the moral improvement of men but only that we should know the mechanism of nature in order to use it on men … A good constitution is not to be expected from morality, but, conversely, a good moral condition of a people is to be expected only under a good constitution.

IMMANUEL KANT (1795), www.constitution.org

The Passage from the Original Position to Society: Institutionalizing the Relations between the "I", the "Us" and the "Them" (continued)

The original position: A **synthesis**

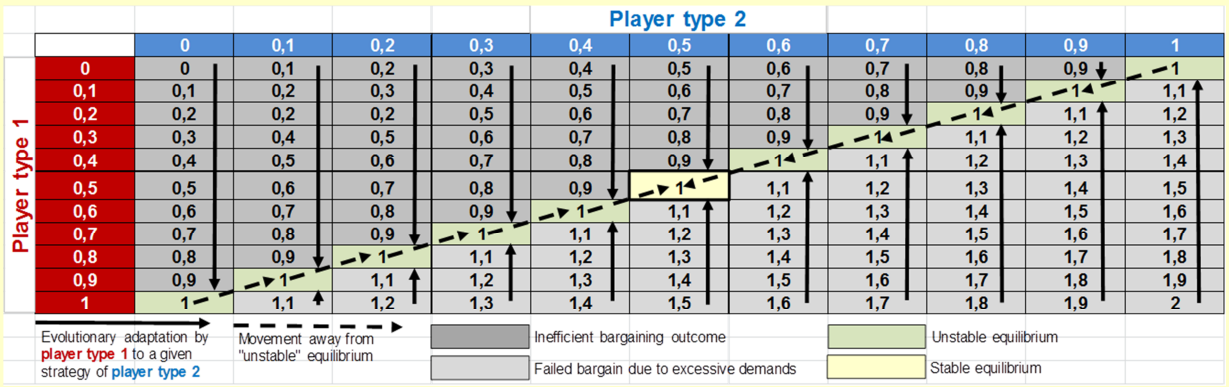
(1) The previous sections introduced the concept of the (hypothetical) original state. The latter serves as a point of reference to sharpen the understanding of society's main features and primary functions. This is done by focusing on a setting free of the institutional arrangements in societies and exclusively driven by the evolutionary force of self-interest – or what the catholic church calls the " **original sin**"[42]: This approach explains how **societies** overcome the limitations to human existence – resulting from the fundamental restriction – by establishing and enforcing a **moral perspective** on human actions.

(2) In general, morality implies that an action can not only be justified by its player(s) as a rational part of their life concept(s). In addition, the perspective of all other humans has to be incorporated by explaining why they should at least not oppose a specific action by the respective player. It is safe to assume that the beginnings of morality lie in the recognition of oneself in the mirror of the others – sexual partnerships and the care for the offspring add the "**us**" to the "**I**". Furthermore, encountering an independent family introduces the " **them**".

(3) Section [XXX] and section [XXX] offer evidence why **cooperation** – echoed in particular by the institution of the family – **and** Hobbesian (violent) **conflicts** represent important features of the original position.[41] All these relationships require the stabilization by **institutional arrangements**[43], i.e., the players agree to rely on a specific procedure as a "blueprint" for a certain set of future actions. Such institutions are initially restricted to certain aspects – e.g., to the exchange of certain goods. However, rational minds are able to **generalize** such arrangements – i.e., identifying and applying the underlying **principle** to a more general class of actions. To illustrate this interpretation, the following scenario is proposed as a description of the original position: **Two families** – capable of rational reasoning, but unrelated and perhaps not even sharing a common language – meet each other in a hostile environment where resources for food, clothing or shelter are scarce. History teaches us that then **anything is possible**: The families may enter a **union**, strengthened by marriage. Or they may start to **trade** things, but remain independent entities. For example, the so-called "silent trade" [44] – employed by the Carthaginians when trading beyond the Pillars of HERCULES and described in the works of HERODOTUS, a Greek historian hailing from Asia minor – can be considered one of the most independent trade relations. But the families may instead focus on **stealing** critical resources or **enslaving** people like young females – the abduction of the Sabine daughters in Roman mythology still finds its modern counterparts in Nigeria, Ethiopia, Somalia, Iraq or Syria. Or one family may outright **kill** the other to monopolize the resources – like the Dutch traders did to control the spice trade on Banda islands in the 1620s.[44] However, the combination of **uncertainty** (caused by multiple equilibria), **repetition** – man faces this scenario for several 100'000 years – and **rationality** eventually results in a phenomenon that is labeled by the German philosopher GEORG W. F. HEGEL as "**weltgeist**"[45]: The movement away – enabled by the rational mind of man – from the original position towards a **reduced set** of equilibria, more **stable** and featuring greater levels of **output**, **efficiency** and **morality**. The next section provides an illustration of this development.

9

The rise of **social conventions** – the example of **fairness**



(1) Based on SKYRMS,[45] the table on the left demonstrates for the case of "**strict equality**" / fairness how moral principles stabilizing relations between players evolve in the original position – for a biologist's perspective on this topic, see FRANZ DE WAAL'S concept of empathy.[46] The model assumes the following bargaining setting: A population initially features **two types** of transaction partners – **player 1** and **player 2**. When two players meet, they bid for a "pie" – a fixed amount of wealth that particularly influences the chances of reproduction. The pie is standardized to "1" and the players bid by making "take it or leave it offers" in accordance with their type's attributed share variable $0 \leq g_i \leq 1$. I.e., this variable determines the share of the pie a specific player type will demand and – if successful – receive in the encounter. To simplify analysis, the variation of the variable g_i is restricted to 0.1.

(2) The table's entries then represent the possible outcomes when the two player types interact. E.g., when **player 1** types (demanding a 0.6-share) meet **player 2** types (asking for a 0.5-share), the bargaining will result in a breakdown as nobody gets a share of the pie. That is because the combination of 0.5 and 0.6 equals 1.1 which exceeds the amount of pie available: "1". Then a definitive breakdown occurs because renegotiation is not possible due the credibility of the "take it or leave it offers". In the table, all those combinations that result in a **failed bargain** due to excessive demands are shaded in **light gray**. Consequently, at least one player type has to adapt by lowering their share to avoid extinction or they are driven out by the emergence of a new player type featuring an adjusted share – refer to the solid arrows as examples for adaptions by **player 1** types encountering a fixed **player 2** type. In contrast, the combination of **player 1** types (demanding 0.3) with **player 2** types (demanding 0.4) will result in a bargaining success. However, such outcomes are hampered by **inefficiency** because they still leave some pie unclaimed on the table – refer to the entries shaded in **dark gray**. In such cases at least one player type will adapt by increasing their demanded share or again a new type emerges in the population.

(3) In conclusion, evolutionary forces will drive the player types to settle for combinations that result in bargaining equilibria with the whole pie of "1" distributed among the players. But with the exception of one combination, all of these combinations are **unstable** – refer to the entries shaded in green and the dashed arrows. Here's why: For example, a population consisting of players featuring the combination of 0.3 shares and 0.7 shares results in an efficient outcome of "1". But because the 0.7 share players are successful and retrieve a significant share of the pie, they face much better reproduction chances. Thus, their number in the population will increase. But each time a 0.7 player meets their "clone", the bargaining results in a breakdown because $0.7 + 0.7 = 1.4 \gg 1$. Consequently, there's room for the emergence of another player type offering a greater compatibility with their own type and the other potential transaction partners, the 0.3 players – for example, this new player type may feature $g_i = 0.4$. The only player type that is **compatible** with **all** potential transaction partners reflects the principle of strict equality / **fairness**: $g_i = 0.5$.

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The link between the original position and society design: The example of **Rawls**' theory of **justice**

(1) The past and the present of man show that the morally justified stabilization of relationships between the "I", the "us" and the "them" is a history of progress, drawbacks and defeats. The final state of this development is – as the loyalty problems of the Third Reich's Wehrmacht caused by an unconditional oath to the Fuehrer so drastically illustrate – the **voluntary** and **conditional** submission of the individual to the **social contract** of **democratic societies**. This contract – as investigated by philosophers like THOMAS HOBBES, JOHN LOCKE, JEAN-JACQUES ROUSSEAU and IMMANUEL KANT – represents the **metaconcept** to rationally design the existence of individuals. I.e., the contract covers **all aspects** of life concepts – this observation by ROUSSEAU[46] will later provide the lever to refute PAUL A. SAMUELSON's public goods approach (see section [XXX]). And – because of its moral justification – the social contract is **binding** to all members of the respective society. The following assessment of the theory of justice by the American philosopher JOHN B. RAWLS demonstrates how the link between the original state and the design of societies can be established by the constitutional principle.

(2) RAWLS' approach centers around the "**the veil of ignorance**"[47]. The veil describes a hypothetical setting – similar to a prenatal scenario – where people are unaware of their future position (sex, race, health, rights etc.) in a specific society: What are then the **constitutional principles** they would want to determine the design of their future society? RAWLS concludes, that rational individuals will vote under the veil for the following two principles with the first principle able to claim priority – the "lexical order" [48] of the principles.

(3) The first principle states: "Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all." [49] As will become clear in section [XXX], this principle actually represents a downgraded version – restricted to "basic liberties" – of the Kantian **categorical imperative** because the later implies "equal rights" to all members of society.

(4) The second principle stresses "… that social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all."[50] RAWLS' emphasis on equal opportunities to obtain social and professional positions is already covered by the first principle and can be ignored. Thus, the core of the second principle represents its first component: *(a)*. This is elaborated by RAWLS as the so-called **difference principle**: "Assuming the framework of institutions required by equal liberty and fair equality of opportunity, the higher expectations of those better situated are just if and only if they work as part of a scheme which improves the expectations of the least advantaged members of society. The intuitive idea is that the social order is not to establish and secure the more attractive prospects of those better off unless doing so is to the advantage of those less fortunate. … Then the difference principle is a strongly egalitarian conception in the sense that unless there is a distribution that makes both persons better off … an equal distribution is to be preferred." [51] With this description of the difference principle, RAWLS reveals that he underestimates the importance of the evolution as a driving force for the various gestalts of humans as well as for their actions – the latter being significantly motivated by self-interest (refer to section XXX). Furthermore, he misjudges – similar to VILFREDO PARETO's welfare criterion (refer to section XXX) – the "true character" of **scarcity**: The use of scarce resources **always** implies the existence of **losers** and **winners**. And the economies of democratic societies – the social market economies – accept this fact as an inherent part of the "game". E.g., no compensation is very often offered to the losers of structural change or to the investors of failed business operations. However, the picture of the "veil of ignorance" helps to understand why "strict equality" is an important concept in law: The so-called **equality before the law** replicates a veil because the majority of law cases have their origin in developments none of the participants planned or even anticipated before being "tossed" into the corresponding setting. Thus, most people are unsure whether they will end up as plaintiff or defendant in court. They then ex ante prefer their specific case to be judged "purely" based on facts. In conclusion, RAWLS' theory of justice fails to offer a convincing alternative to the Kantian categorical imperative because it is also based on pure rationality and ignores the consequences of the fundamental restriction. Thus, while the Rawlsian concept is able to highlight how the link between the original position and society can be established by the constitutional principle, its push for an egalitarian society fits only a world of pure reason where differences in capabilities – and the necessity to incorporate incentives to satisfy the self-interest of the players – are irrelevant. Section [XXX] discusses other candidates for the constitutional principle of democratic societies.

11

The Military System of Democracies IV: The Constitutional Principle Determines Freedom in Societies

We fight for our freedom, our religion and we fight for our holy land.
A Taliban leader addressing his men in a speech of encouragement, recorded by PAUL REFSDAL (2010 [Taliban – Behind the Masks], www.youtube.com)

Freedom itself was attacked this morning by a faceless coward, and freedom will be defended.
GEORGE W. BUSH (2001, www.washingtonpost.com)

I remember banking to the south, which meant we were getting ready to hit. We had about another fifteen minutes. Instead of counting, for some reason I said to myself the George Bush 9/11 quote: Freedom itself was attacked this morning by a faceless coward, and freedom will be defended. I could just hear his voice, and that was neat. I started saying it again and again to myself.
Interview with former Navy SEAL ROBERT J. O'NEILL, aka "The Shooter", by PHIL BRONSTEIN (2013, www.esquire.com)

How good bad music and bad reasons sound when one marches against an enemy!
FRIEDRICH NIETZSCHE (1954 / 1982, p. 91)

Socio-Economic Perspective on Societies

Societies as spheres of **trust**

(1) Through history, man struggles to realize their life concepts while being exposed to the **fundamental restriction** and the implications. The Hegelian Weltgeist symbolizes the insight by the imperfect human mind – nonetheless striving for rationality and benefitting from repeating similar situations again and again – that reconciling self-interest with morality offers significant improvements in comparison to the original position, i.e., a fictive setting driven exclusively by the evolution. The main **instrument** to **counter** the fundamental **restriction** represents the organization of individuals in **societies.**

(2) The primary function of societies consists in providing " **spheres of trust**" for human interactions. Trust represents a specific attitude subset of the more general class of "anticipations" that becomes crucial in scenarios of strategic interaction with ***player A*** being confronted with incomplete or **asymmetric information**.

(3) Trust can be **defined** as the expectation of ***player A*** that ***player B*** will either rely on a specific action or is committed to select certain steps in the corresponding action sequence (including pursuing specific objectives) or is set out to generate certain results by their actions. [52] Trust is free of any moral connotation. For example, during the Second Punic War the Carthaginian general HANNIBAL was often able to "trust" – according to the Israeli historian MAX ZLATTNER, most likely based on the excellent groundwork laid by the Punic intelligence service – [53] that his adversaries were going to act in specific ways which could be exploited by his strategy, operations or battle tactics. For an illustration, refer to the battle of the Trebia which shows how HANNIBAL incorporated the reckless and glory-hungry character of the Roman general, TIBERIUS SEMPRONIUS LONGUS, into his battle plan as a key factor to this Punic victory.

(4) In general, trust results from four different types of forces: a) " **Blind confidence**" represents an initial investment to advance the opening of new relationships – refer to the rules of hospitality in different cultures, b) the stickiness of ***player B*** 's mindset as revealed in past actions – for example, the revelations by WikiLeaks illustrate how diplomacy and intelligence services strive to create **player profiles** of politicians and other decision makers that may offer hints about their future actions, [54] c) ***player A*** possesses sufficient information about the specific setting in which ***player B***'s action occurs or ***player A*** is able to change ***player B***'s pay-offs by **carrots** and **sticks**. In turn, this enables ***player A*** to anticipate ***player B***'s **optimal action** – for an introduction to the economic approach of contract design by incentives refer to the "nudge" concept by RICHARD H. THALER and CASS R. SUNSTEIN[55] or to the textbook by DONALD E. CAMPBELL[56], d) ***player B***'s **reputation** – their present action or its outcome possesses significant impact on this player's future pay-offs. This link reduces the attractiveness of certain options like shirking in the present constellation.

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How trust boosts **innovation** and **productivity** in societies

(1) The archetype to establish and maintain trust is the **family**. As history progressed, societies gained in complexity – extending the range of the spheres to individuals or groups featuring less and less common blood ties or ethnic features. Thus, the development of societies could advance from stages like the **clan** and later the **horde** to modern societies that even allow for interactions between players remaining nearly **anonymous**. In accordance with the four basic categories of trust creating forces, the **public promoters** of trust in history (refer to the Codex of Hammurabi), the **private promoters** (refer to philosophers like KANT who sought to establish an eternal and global peace) or the organized, hence publicly visible **players of the non-profit sector** (refer to the freemasons or service organizations like Rotary International) used / use different levers to create and cement spheres of trust – for an overview, refer to the works of DOUGLASS C. NORTH[57] or AVNER GREIF[58]: For example, transnational trade nets like the Knights Templar, the Teutonic Order or the Maghribi traders explicitly introduced religious standards to forge the "mentality stickiness" favoring their group ethos. Or they – and the more secular organizations like the Hansa, the Hudson's Bay Company and the East India Company – increased the disciplinary power of reputation by exchanging their locally gained information about members or trading partners: "Ehr is Dwang gnog." [59] ("Honor already disciplines sufficiently.").

(2) From an economic point of view, all these attempts to create spheres of trust share the following consequences: A credible set of sanctions and incentives **reduces** the number of **equilibria** that may result from the interactions in societies. I.e., in everyday life, the members can expect to face three types of relationships – symbiosis, explicit cooperation and competition. In turn, this result reduces the costs of actions – for example, in non-failed states or modern societies nobody needs to arm themselves with AK 47s to herd their sheep. Finally, the reduced costs of action change the **trade-off** between the benefits of **independence** and the benefits of **division of labor arrangements** – refer again to the general formula of economic action design in section [XXX] – unlocking an **innovation** and **productivity boost**: Transcending the limits of cooperation between family members increases the **probability** to interact with (trustworthy) partners who enjoy – at least – a comparative cost advantage or even an absolute cost advantage in production or who feature a difference in consumption preferences that can be exploited by trade for mutual advantage etc. In conclusion, by creating spheres of trust, societies are able to offer – in comparison to the fictive original position – significant **welfare improvements**.

(3) This central role of (economic) performance in the raison d'être of societies puts the limelight on the necessity of **comparing** different society **designs** and their respective **performance**. As already stressed by ROUSSEAU, measuring the performance of societies by objective standards proves to be difficult. [60] Furthermore, his view that changes in population numbers provide the best **indicator** for good governance[61] must be modified for modern times featuring contraceptives and low costs of travel. Nonetheless, it offers a general insight highly relevant to, for example, financial economics: When a simple ratio based on the aggregation of credible actions by a multitude of players is already available, putting effort into the development of (unavoidable) subjectively biased system of compounded ratios should be avoided: "What can you do to prevent forecast errors from swamping genuine information? We suggest that you begin by looking at market values. … Security analysts face a similar problem whenever they value a company's stock. They must consider the information that is already known to the market about a company, and they must evaluate the information that is known only to them. … Security analysts do not need to evaluate this information again. They can start with the market price of the stock and concentrate on valuing their private information." [62]

(4) Consequently, modern communications and low costs of migration put those designs under **pressure** that trail the more advanced societies: As the global net balance of **migration** reveals, societies centered around the family or clans seem to be perceived as unattractive by many of their members because of their limited options to realize individual life concepts. In addition, they threaten to undermine the performance potential of the more advanced societies by establishing institutions that severely challenge the social contract of the receiving society by blood feuds, organized crime or honor killings. Finally, countries like North Korea may write lengthy reports to defend their excellent performance in regard to implementing human rights – [63] however, as long as the migration to North Korea remains close to zero, such claims must remain highly dubious: "Costly actions are credible, (only) talk is cheap." This observation also explains why it is not possible to evaluate in isolation the social contract and the elements belonging to society's primary **triad** – society's objectives, strategy and organizational subsystems.

13

The main challenge to society design: **Morally justified freedom**

(1) The performance of societies as spheres of trust represents the main instrument to counter the fundamental restriction. To fulfill this task, **six conditions** in society design must be met. *Condition 1*: The society must be able to offer welfare improvements in comparison to its "outside options" – in particular, the original position and other society designs (**incentive condition**). *Condition 2*: Society design has to take into account that the association of individuals in society and their confrontation with scarcity imply a strategic interdependence of all actions in society (**interdependence condition**).

(2) *Condition 3*: The **parable** of the **porcupines**[64] by the German philosopher ARTHUR SCHOPENHAUER illustrates why the optimal level of freedom represents the main **lever** in society design: The members need each other to tackle the fundamental restriction and its implications. But this dependency also limits their freedom in actions (**freedom condition**).

(3) Freedom is the right to life according to **self-determined life concepts**. For example, total freedom to one person would call for a social order with all other people acting and scarce resources used **only** in accordance with the life concept of this person – leading to a **collision** with the freedom of **all** others. *Condition 4*: History did see wars with both sides claiming to fight for freedom. The bitter irony – both sides were often "right". Fighting for freedom can imply fighting for the supremacy of the Aryan race, the right to enslave people, the dominance of the own clan etc. Thus, freedom must be justified by a moral perspective – i.e., each individual perceives the other members as mirrors of the self. Then it is not sufficient to legitimize an action as a **rational** choice – implying an optimal contribution to the individual's life concept. In addition, the action must meet the consent of all other members (**moral condition**). This necessity also helps to stabilize the welfare-enhancing spheres of trust.

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The **foundation** of the social contract

(1) *Condition 5*: Societies seek to reconcile evolution-driven self-interest with moral perspective by cutting back individual freedom to sustainable and morally justified levels. But the need to incorporate morality forces the members to totally submit to the so-called social contract (**condition of complete and conditional surrender** – refer again to [XXX]): When leaving the original position, each individual must render all their rights and duties to the society ("the association") and then – in accordance with the rules fixed by the social contract and reflecting the optimal level of freedom – the rights and duties are reissued to the members. ROUSSEAU provides the reason for this seemingly harsh procedure: If there are instead **exemptions** from this procedure, i.e., leaving certain aspects of human actions or groups untreated by the social contract, the condition of morality will not be fulfilled. In particular, "special status" – that may promote, for example, the idea of "Quod licet Iovi, non licet bovi." – is irreconcilable with the requirement to perceive the others as mirrors of the self: "In the absence of any superior to decide issues about this, each individual would be his own judge in the first case that came up, and this would lead him to ask to be his own judge across the board; this would continue the state of nature, and the association would necessarily become inoperative or tyrannical." [65]

(2) *Condition 6*: Morality demands the reallocation of rights and duties to be free of arbitrariness and discrepancies (**reallocation condition**). To secure this result, the **constitutional principle** is introduced into society design. Based on this moral principle a society decides which players – individuals or groups – are allowed to perform which actions. The direct output from applying the constitutional principle represents the **social contract** that is centered around the **constitution**, describing a) the basic rights and duties of public, private and non-profit players, b) the methods to determine, maintain and revise consensus about permissible as well as forbidden equilibria of actions and c) the ways to enforce this consensus. In turn, the social contract functions as the instrument of coordination for the **triad of society design** mentioned above – society's objectives, strategy and organizational subsystems. The following schemata will investigate each of these components in greater detail.

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Freedom, Morality and Society Design: The Basics