

CARING ECONOMICS, COOPERATION, AND THE COVID-19 PANDEMIC

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Abstract

For centuries, Adam Smith's *The Wealth of Nations* shaped profit maximization as the standard of economic action. The concept of caring economics published by the feminist law and systems scientist Riane Eisler under the title *The Real Wealth of Nations: Creating a Caring Economics* (2007) contrasts this neoliberal, dominance-oriented model of society with the idea of partnership-oriented societies. The concept of caring economics was widely influenced by the social, economic, and welfare systems of the Nordic countries. In 2015-2016, the author of this article conducted a pilot study interviewing scientists from different disciplines with the aim of investigating whether the conditions in these countries reflect Eisler's theoretical model (Hedenigg, 2019). While Eisler emphasized empathy and care as essential orientations of partnership societies, several of the interviewed scholars, in contrast, stressed cooperation, trust, solidarity, and functioning institutions as essential elements in addition to Eisler's concept. This article hypothesizes that Eisler's conception of caring economics should be supplemented by the elements mentioned above, in particular, cooperation. The aim is to identify, in a theory-guided manner, the elements that constitute the central operative mechanisms of the extended conception of caring economics. Resulting conclusions are discussed in the context of the Covid-19 pandemic. Norway and Finland are among the 10 most successful nations in epidemic containment. This article assumes that the extended conceptualization of caring economics does not only allow us to gain insight into the complexity of the pandemic, but also to identify various successful containment mechanisms. In particular, cooperation appears to play a major role in this context. From an evolutionary point of view, multilevel selection can be regarded as an essential tool to cope with global problems and threats like the Covid-19 pandemic. In addition, trust and solidarity as well as gender aspects in the context of political leadership and welfare regimes have been identified as successful pandemic containment mechanisms. In summary, the Covid-19 pandemic lends strong plausibility to the extended conception of caring economics.

Keywords: Caring Economics; Covid-19 Pandemic; Cooperation; Design principles; Solidarity; Trust; Empathy

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INTRODUCTION

For centuries, industrialized nations have been characterized by the aspect of maximizing profits. However, in light of the Covid-19 pandemic, we are reminded of the existential importance of caring systems. In the German-speaking world, for example, the term "system relevance" is paradigmatic for the perception and appreciation of life-sustaining systems (Bundesministerium für Arbeit und Soziales, n.d.). At the same time, however, numerous weaknesses in the health-care system are becoming apparent (Arentz & Wild, 2020; Werner, 2020). At the level of society as a whole, the importance of social-psychological virtues such as solidarity, consideration, helpfulness, and renunciation is emphasized in order to prevent the further spread of infection (Bonacker, 2020; Diem & Tönnemann, 2020; Lehming, 2020; Müller-Jung 2020). Nevertheless, there is little theory-based reflection on the prerequisites of prosocial behavior in the current debate. For Germany and other European countries, it is true that large parts of the population are still willing to behave in the interest of the common good. Increasingly, however, resistance, refusal, and egoism are becoming evident. Conspiracy theories, protests, and irrational reactions are on the rise (Lobo, 2020; Kalisch & Stotz, 2020; Meyer & Spikschen, 2020; Sontheimer, 2021; Stern, 2020). However, there is hardly any theory-based argumentation about these forms of "defection," i.e., acting in opposition to necessary social rules. At present, it remains to be seen whether and how the population will be able to cope with the economic and social consequences in addition to the health-related damage (Beise, 2020; Müller, 2020; Rydlink, 2020; Schmoll, 2020; Steinert & Ebert, 2020). Regardless, it seems necessary to reflect on whether the prevailing neoliberal and dominance-based social structures are

suitable for challenges of this kind and dimension - or whether it is not time to discuss more appropriate models of society.

To this end, Eisler's (2007) model of caring economics will be outlined below. In short, Eisler distinguishes between traditional top-down domination orientation as

seen in countries like Russia and China but also in neoliberal governments of democratic societies, and that seen in the partnership-oriented Nordic countries with their social democratic welfare regime, strong gender equality, and collective bargaining regulations. In order to test the intriguing analytical model developed by Eisler, the author of this article conducted a qualitative pilot project in Norway, Finland, and Sweden during 2015 and 2016. Although Eisler's premises were widely supported, some doubt was formulated concerning the role of caring and empathy as the strong orientation mechanism postulated by Eisler. Rather, cooperation, trust, and solidarity - based on the strong relevance of equality and functioning institutions - were mentioned.

In this article, the author pursues the hypothesis that the conception of caring economics can be usefully extended and supplemented with further theoretical elements, in particular cooperation, solidarity, and trust. Thus, conceivable intersections arise from evolutionary and game-theoretical insights into cooperation mechanisms (e.g. Nowak, 2011; Wilson, 2015). Furthermore, the design principles of successful common-pool resources (CPRs) described by Nobel laureate Elinor Ostrom (2003) imply a compatibility with the conception of partnership-oriented systems with regard to connectedness, democratic structural elements, and participation. Ethics and behavior emerge as a solution to the tragedy of the commons - the overuse of common resources. By now, it is indisputable that the invisible hand metaphor of individual profiteering, underlying Adam Smith's (1937) concept, is outdated. Solidarity and trust, which were emphasized in the author's qualitative interviews with Nordic scholars as being complementary to caring economics, are, in contrast, seen as functional proximate mechanisms based on common good interests. Empathy and narratives are not only inherent in Eisler's conception of caring economics. They are also demonstrable as a crucial factor for prosocial behavior in contexts of cooperation.

Based on the presentation of the theoretical extension possibilities of caring economics, the individual aspects are applied in relation to the Covid-19 pandemic: Due to the evolutionary significance of cooperation, a pandemic can only be solved by means of multilevel selection on a global scale (Wilson, 2015). This requires

solidarity, which can be robust and/or expressional (Taylor, 2015). Exclusionary national solidarity (Möhring-Hesse, 2019) is counterproductive when solving a pandemic. Trust is inherent to both concepts of solidarity, and when combating an infectious disease, both interpersonal and system trust are necessary (Luhmann, 2017; Schipper & Petermann, 2011). However, complex societies and an epidemic on a global scale seem to require accompanying measures of mistrust, controls, and sanctions to ensure compliance with the necessary measures. Trust concepts include empathy elements, with cognitive perspective taking and empathy as a response to the health, social, and economic situation of affected individuals and countries being prerequisites. In the context of prosocial behavior, empathy is particularly relevant, as it directly motivates people to help and support others (Singer & Steinbeiß, 2009; Singer & Klimecki, 2014). However, in the health-care sector, empathic distress as a reaction to suffering must be counteracted preventively, since withdrawal and burnout can result from it. In the context of empathy and compassion, information and narratives are crucial to ensure solidarity, consideration, and compliance. In this context, the media, especially social media, play a central role in motivating prosocial action (Zak, 2013).

In summary and supplemented by the elements mentioned above, the social vision of caring economics attains current plausibility in the pandemic, not least because Eisler's feminist approach is confirmed on numerous other levels. On the one hand, the dimension of female economic power in caring systems that she pointed out became evident on a broad societal level (Kohlrausch & Zucco, 2020 a, b; Schmieder & Wrohlich, 2020). Regrettably, however, her criticism of the lack of appreciation and monetary gratification was also confirmed (Inken, 2020; Koebe et al., 2020; Raether, 2020). On the other hand, the existential dimension of caring activities is moving into general awareness. In addition, the discrepancies between dominance-oriented and partnership-oriented government systems pointed out by Eisler become apparent. Female-governed countries, for example, seem to be coping better with the crisis than male-governed views of downplaying and trivializing (Chamorro-Premuzic, 2020; Illner, 2020; Weichert, 2020). However, the countries mentioned as being female-governed are predominantly governed by social democrats and a social democratic regime (Esping-Anderson, 1993). Furthermore, there is a

disproportionate number of Nordic countries (Farrar, 2020) - the social and welfare systems that served Eisler as a model for her caring economics concept.

In the next step, the concept of caring economics will be briefly outlined. Subsequently, the proposed theory elements for the extension of Eisler's model will be presented in the form of theoretical intersections. Finally, an analysis of the Covid-19 pandemic will be conducted on the basis of the above-mentioned key elements.

CARING ECONOMICS

Riane Eisler, a sociologist and systems scientist from Austria who emigrated during World War II formulated the concept of "caring economics" in 2007, published in the United States under the title *The Real Wealth of Nations: Creating a Caring Economics*. Eisler's theoretical frame of reference is based not only on feminist roots, but also on insights into systems theory/systemics and neuroscience. In addition to the traditional segments of the market economy, the government economy, and the illegal economy, Riane Eisler emphasizes the need to recognize the "life-sustaining economic sectors: the household economy, the natural economy and the volunteer economy" (Eisler, 2017, p. 3). Based on the conviction that economics does not emerge and flourish in a "vacuum" (Eisler, 2017, p. 4), she anchors her theoretical assumptions in the "larger social system in which they are embedded" (Eisler, 2017, p. 5). Due to the historical failure of the theories of, for example, Adam Smith about liberal market capitalism or Karl Marx about socialism, a consideration of social contexts and an overcoming of conventional sociological categories such as "socialist vs. capitalist, religious vs. secular, rightist vs. leftist, Eastern vs. Western, industrial vs. postindustrial" is urgently required. From Eisler's point of view, none of these categories describe "what kinds of relations - including economic relations - a particular social system supports" (Eisler, 2017, p. 5).

In her broad socioeconomic and global ecological approach, Eisler emphasizes the importance of human relations. In particular, "care" aspects of social relatedness, mindfulness, concern, and caring are highlighted as fundamental human qualities

(Eisler, 2019). She thus develops a radical counter-concept to the traditional conception of man in economics, that of "homo oeconomicus" as adopted in Adam Smith's *The Wealth of Nations*. On the level of society and systems, she distinguishes between dominance and partnership-oriented systems. In Figure 1, the main characteristics of the respective models are depicted. The round organic shape of partnership systems represents the degree of equality, lack of hierarchy, interrelatedness, and options for further connections and connectivity. Symbolically, the round and holistic form represents the soft and protective elements included in the conception of partnership systems - usually associated with the traits of "the feminine". In contrast, the pyramid shape is used to describe domination systems. It symbolizes hierarchies and top-down structures, mechanisms of power and dominance - traditional attributes of the "masculine".

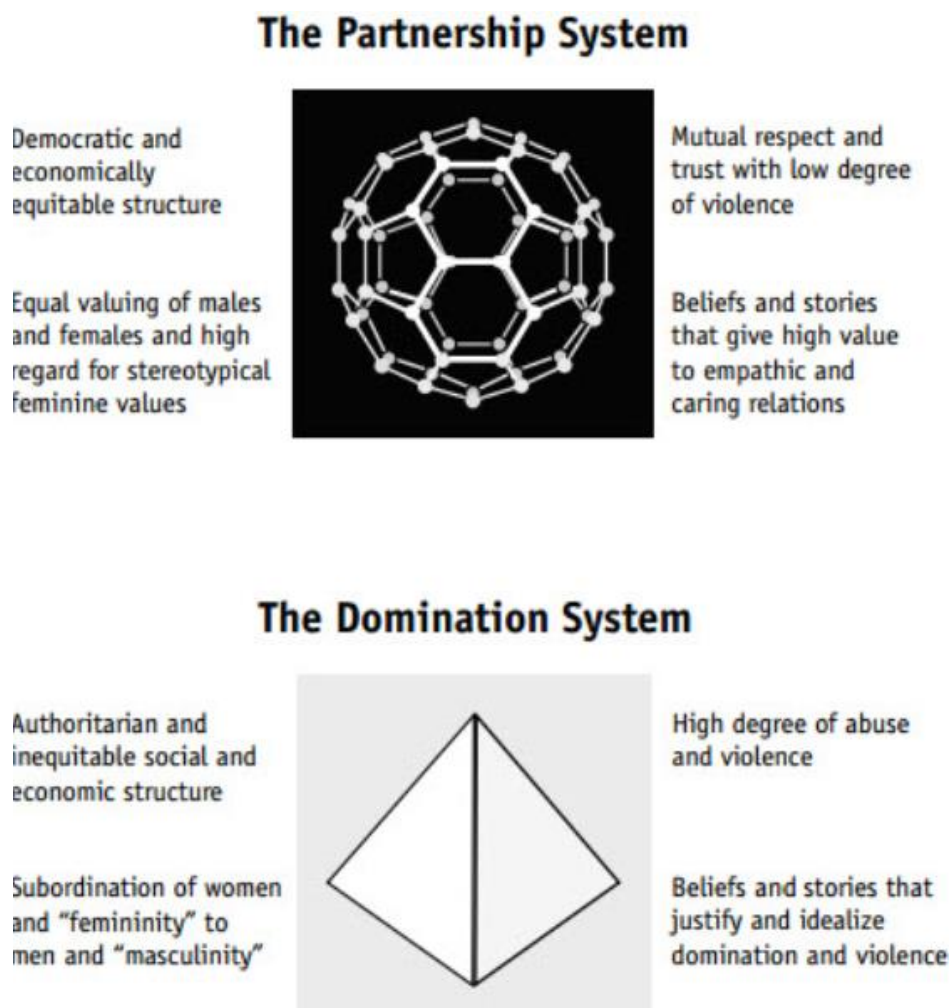


Figure 1. Human Dynamics of the Partnership/Domination Continuum (Source: Eisler, 2007, p. 104). Used with permission.

According to this distinction, the traditional domination system is characterized by social and economic inequality, as well as by gender inequality. It is described as a masculine power orientation based on functional mechanisms of fear and violence, with narratives glorifying violence and domination. In order to illustrate the system mechanisms, Eisler presents examples of countries whose social structures are traditionally hierarchical and domination-oriented (China or the former Soviet Union). However, by explicitly referring to the dominance-specific characteristics of current neoliberalism, she doesn't exempt democratic industrial societies from domination orientation. Neoliberal politics is described as a policy "in the hands of those on top", whose goal is primarily to maintain power, and which is characterized by an extensive armaments policy to preserve or to expand this power. A further source of neoliberal power politics is seen in an alliance of the religious right and its conservative, hierarchically structured family concept, with the superiority implications of male family members over female ones. On the basis of this "ranking" of the masculine over the feminine, neoliberalism represents another characteristic of dominance systems: the disrespect for the "soft" or stereotypically "feminine". Neoliberal economic systems are characterized by the fact that they fundamentally react to welfare state programs through restrictions. Examples are health and education systems and support programs for poor families, which serve the care of the human being (Eisler, 2017, p. 8).

In contrast, in *The Real Wealth of Nations: Creating a Caring Economics* (Eisler, 2007, p. 104), partnership systems are characterized by a "democratic and economically equitable structure", "equal valuing of males and females and high regard for stereotypical feminine values", "mutual respect and trust with low degree of violence", and "beliefs and stories that give high value to empathic and caring relations" (p. 104). The contextual requirements for the development of partnership systems in the frame of a caring economics are described by the following six foundations:

Full-Spectrum Economic Map: A full-spectrum economic map includes the household economy, the unpaid economy, the market economy, the illegal economy, the government economy, and the natural economy.

Cultural Beliefs and Institutions that Value Caring and Caregiving: Beliefs and institutions orient to the partnership system rather than the domination system and include a shift from dominator to partnership relations in the formative parent-child and gender relations.

Caring Economic Rules, Policies, and Practices: Government and business rules, policies, and practices encourage and reward caring and caregiving; meet basic human needs, both material needs and needs for human development; direct technological breakthroughs to life-sustaining applications; and consider effects on future generations.

Inclusive and Accurate Economic Indicators: Indicators include the life-sustaining activities traditionally performed by women in households and other parts of the nonmonetized economy, as well as the life-sustaining processes of nature, and do not include activities that harm us and our natural environment.

Partnership Economic and Social Structures: More equitable and participatory structures support relations of mutual benefit, responsibility, and accountability rather than the concentration of economic assets and power at the top.

An Evolving Economic Theory of Partnerism: Economic theory incorporates the partnership elements of both capitalism and socialism but goes beyond them to recognize the essential economic value of caring for ourselves, others and nature. (Eisler, 2007, p. 22 - 23)

For Eisler (2007, 2017), the Nordic welfare states with their Nordic Model (Lundberg, 2014; Maass, 2015; Witoszek & Midttun 2018) formed a kind of blueprint for partnership-oriented societies.

The Nordic nations' success has sometimes been attributed to their relatively small and homogeneous populations, and in Norway's case to rich supplies of fossil fuels. But small, homogeneous societies such as some oil-rich Middle-Eastern nations, where absolute conformity to one religious sect and one

tribal or royal head is demanded, have large gaps between haves and have-nots and other inequities characteristic of domination systems. So, we have to look at other factors to understand why Nordic nations moved out of poverty and developed a prosperous, more caring and equitable economic system in a relatively short time. When we do, we see that what made these nations successful was that moving toward the partnership configuration made it possible for them to become what they sometimes call themselves: "caring societies." And one of the core components of their more caring democracy and economy, in contrast to the domination system, is equality between the male and female halves of humanity. (Eisler, 2017, p. 10)

As the author of this article was intrigued by the extent of interdisciplinarity in Eisler's approach, the theoretical-analytical frame of reference, and the empirical suggestions, a pilot study was conducted in 2015/2016 to examine Eisler's premises about the model character of Nordic countries. The qualitative study with 20 scientists from Norway, Sweden, and Finland was based on the question of whether and, if so, which aspects of caring economics could be transferred to other societies - a premise which Eisler's model implies.

The results of the qualitative content analysis largely confirm Eisler's theoretical assumptions: The "caring" motif is widely implemented in the welfare state concept of the Nordic countries. However, some interviewees expressed doubts about an overemphasis on empathy and care for success in the Nordic countries. In contrast, in addition to functioning institutions, they stressed the importance of cooperation, trust, and solidarity based on equality. The roots of these frames of orientation for Nordic societies were metatheoretically reflected on and discussed by the interviewees. From a sociological perspective, arguments were put forward based on institution theory. Nevertheless, the emergence of the institutions responsible for the success of the Nordic Model was repeatedly explained in terms of cultural and religious history on the basis of the strong Protestant influence. Another influencing factor repeatedly mentioned was the strong position of the trade unions. A further line of argument mentioned the geographical situation of the Nordic countries and its implications for the development of cooperation.

An outlook from this pilot study on aspects that could motivate further research was seen in the connection between the strong importance of trust in Nordic societies, especially in terms of cooperation, and the importance of trust and cooperation in evolutionary contexts. Following these open perspectives, the present article pursues the hypothesis that there are numerous overlaps between the two positions of caring economics and cooperation and that the different theoretical concepts are intertwined. In this respect, the aim is to identify, in a theory-guided manner, the elements that, by extension, function as the central operative mechanisms of caring economics: cooperation, robust and expressional solidarity, interpersonal and system trust, empathy as theory of mind, and empathic stress or compassion, as well as their biochemical and neuronal processes. Furthermore, narratives and their mechanisms of action are examined in the context of the aforementioned aspects. This approach seems justifiable and appropriate in the light of the pandemic, which urgently requires caring economics.

It is even more compelling to follow the theoretical conceptions as current empirical findings on the Covid-19 pandemics confirm that the Nordic countries - which have served as a model for Eisler's concept of caring economics - are among the most successful countries in pandemic control (Hong et al., 2020). This fact once again legitimizes the call for global life-sustaining system structures, as formulated by Riane Eisler. In light of the current pandemic, the aim of extending the theory of the caring economics conception is to analytically comprehend the complexity of epidemic events on a global scale even more comprehensively. To this end, it is illuminating to incorporate the feedback from Nordic scholars into the basic conception of caring economics. This is especially true with regard to the themes of cooperation, trust, and solidarity, which play a prominent role in the literature on dealing with the pandemic (Bargain & Aminjonov, 2020; Devine et al., 2020; Cairney & Wellstead, 2020; Brück et al., 2020; Sibley et al., 2020; Gozgor, 2020; Min, 2020; Pascoe & Striplin, 2020; Prainsack, 2020).

THEORETICAL INTERSECTIONS

In this section, complementary aspects of cooperation, solidarity, and trust are presented from research findings in evolutionary biology and game theory, behavioral economics, and social neuroscience.

Evolutionary Biology and Genetics

In view of the global crises, the question of the existence of the "good in man", or at least of the possibilities and conditions of prosocial behavior, is legitimate. Answers to this question can be found, among others, in evolutionary biology. Thus, the foundations for prosocial behavior are genetically laid. Genetic polymorphism causes people to react differently to their respective environments. Epigenetics can lead to changes in gene expression in the presence of long-lasting environmental influences - possibly over generations. Behavioral flexibility is the prerequisite for the fact that, depending on the immediate environment, individuals with a high degree of prosociality (HIGH-PROs) can become individuals with a low degree of sociality (LOW-PROs) and vice versa (Wilson, 2015, p. 122-123). From an evolutionary biology perspective, therefore, it is important to create social environments that favor prosocial action. Under these circumstances, humans act highly socially without specific prompting (Wilson, 2015, p. 131; Ostrom & Walker, 2005, p. 383). In particular, group-level functional organization are described as social environments that favor prosocial behavior (Wilson, 2015, p. 11-12). According to Ostrom's (2005) design principles, slightly modified by Wilson (2015, p. 11-12), the following eight design principles of functionally organized groups based on successful common pool resource projects can be identified:

- 1. Strong group identity and understanding of purpose.** The identity of the group, the boundaries of that shared resource, and the need to manage the resource must be clearly delineated.
- 2. Proportional equivalence between benefits and costs.** Members of the group must negotiate a system that rewards members for their contributions. High

status or other disproportionate benefits must be earned. Unfair inequality poisons collective efforts.

3. **Collective-choice arrangements.** People hate being told what to do but will work hard for group goals to which they have agreed. Decision making should be by consensus or another process that group members recognize is fair.
4. **Monitoring.** A commons is inherently vulnerable to free-riding and active exploitation. Unless these undermining strategies can be detected at relatively low cost by norm-abiding members of the group, the tragedy of the commons will occur.
5. **Graduated sanctions.** Transgressions need not require heavy-handed punishment, at least initially. Often gossip or a gentle reminder is sufficient, but more severe forms of punishment must also be waiting in the wings for use when necessary.
6. **Conflict resolution mechanisms.** It must be possible to resolve conflicts quickly and in ways that group members perceive as fair.
7. **Minimal recognition of rights to organize.** Groups must have the authority to conduct their own affairs. Externally imposed rules are unlikely to be adapted to local circumstances and violate principal 3.
8. **For groups that are part of larger social systems, there must be appropriate coordination among relevant groups.** Every sphere of activity has an optimal scale. Large-scale governance requires finding the optimal scale for each sphere of activity and appropriately coordinating the activities, a concept called polycentric governance.

(Wilson, 2015, p. 12-13)

The implementation of the eight design principles took place in completely different variants in the projects carried out globally. The variants were based on different

motives, norms, and social conventions. Remarkably, they were not based on any specific psychological or ideological elements, which is why it is not possible to speak of an altruistic approach in conventional terms. The most successful CPRs groups were the ones which were best able to resist actions by individuals at the expense of others in the group (Wilson, 2015, p. 68-70).

Mechanisms of Cooperation

Cooperation is intensively studied in sociology and behavioral economics as well as in evolutionary biology (e.g. Gamble et al., 2016; Nowak, 2011; Senett, 2013). Here, the thesis that human behavior is exclusively selfishly motivated (Smith, 1937) and the thesis that, on the contrary, it is characterized by prosocial, cooperative motives, are opposed (Nowak, 2011). The evolutionary biology thesis, according to which cooperative behavior has evolved the human species, currently takes a leading role in the theoretical discourse in this regard. For the theoretical, empirical understanding and political implications, it is of central importance that cooperation is not a static, permanent state, but a dynamic, cyclical process. A utopia of cooperation does not exist: the “average frequency of cooperators” is 31.78% (Nowak et al., 2011). These authors identified five cooperation mechanisms: direct reciprocity, indirect reciprocity, spatial selection, group/multi-level selection, and kin selection (p. 79).

Direct and indirect reciprocity, the first two mechanisms, are based on the idea that “one good turn deserves another” (Nowak, 2011, p. 272-273). The following successful strategies of prosocial characteristics have proven to be particularly helpful: a positive, optimistic (hopeful) attitude, generosity, and forgiveness. An optimistic “hopeful” attitude signals a leap of faith through initially one’s own cooperative behavior. Generosity implies a longer-term perspective as well as the decision to refrain from competitive behavior and envious comparisons of advantages or better performance of others. It is characterized by a willingness to be satisfied with equal or smaller shares and benefits from numerous mutually supportive interactions. Forgiveness refers to situations in which one partner does not behave cooperatively (that is, defects) and does not make serious efforts to restore the relationship. The most successful strategy of direct and indirect

reciprocity lies in a Generous Tit-for-Tat (GTFT) attitude of mutual taking and giving based on a "sprinkling of forgiveness" (Nowak 2011, p. 47). Neuropsychologists Steinbeiß and Singer (2009, p. 47) emphasize the importance of a GTFT strategy also with regard to the emotional disposition of prosocial behavior.

Spatial selection, a third mechanism of cooperation, arises due to spatial, geographical circumstances. It is based on social networks and clusters of mutual support. Defectors and cooperators can be expected to coexist, leading to cycles of cooperation and stalemates of cooperation and defection. Few individuals and low linkage lead to more intense cooperation. A crucial criterion in the search for cooperative group members lies in the extroverted cooperation rule. It states: "Which of my friends is doing well? Is he a cooperator or a defector? If the former, then cooperate" (Nowak, 2011, p. 250-251; Singer & Steinbeiß, 2009, p. 44).

Group selection or multilevel selection as a fourth mechanism is of particular importance considering the current global challenges. It is based on theoretical and empirical evidence that groups of cooperators are more successful and consistent than groups of defectors. Thus, groups that have a higher proportion of people willing to sacrifice for the greater good perform better. The success of group or multilevel selection continues to depend on migration and group cohesion (Nowak, 2011, p.93).

Kin selection is not an uncontroversial mechanism, and despite the associated dangers of corruption, it remains "a small component of human cooperation" (Nowak, 2011, p. 283).

Ethics and Behavior: The Solution to the "Tragedy of the Commons"

Already in the sixties, the ecologist Garrett Hardin (1968) formulated the dilemma of "the tragedy of the commons" on the question of the distributive justice of public resources. In contrast to Smith's main concern with free markets, maximizing one's own profits and promoting the public interest through the invisible hand metaphor, Hardin was deeply convinced that selfishness would ruin collective prosperity (Nowak, 2011, p. 204). He came to the conclusion that overcoming the tragedy of

the commons could not be achieved through engineering and technological progress. Rather, in his view, the solution lay in a fundamental "expansion of ethics." Nowak (2011, 207) extends this assessment to "ethics and behavior." Analogous to Wilson (Wilson, 2015, p. 148-149) and Eisler (2007), he too sees the only viable solution in cooperation on a global scale.

As a result of mathematical calculations and game-theoretical computer simulations, Nowak (2011) described the following prerequisites for successful cooperation:

- overcoming excessive self-centeredness, pettiness and competition;
- the expansion of horizons beyond the boundaries of relatives and kin;
- the realization that punishments and threats do not strengthen cooperation (instead, cooperation can be strengthened through mutual support, participation, friendship and positive reinforcement); and
- cooperation with future generations, in order to ensure sustainability and intergenerational justice. (Nowak, 2011, p. 309).

Mechanisms for the Self-organization of Complex Societies

Until far into our present time, the question of the well-being of society was discussed and decided based on the human image of *homo economicus* and the invisible hand metaphor. Current insights of systems theory strengthen F. von Hayek's assumptions and insights (1960) up to a certain point (Malik, 2008). Hayek's assumptions of self-organization, distributed intelligence, and cultural group selection are convincing from a theoretical perspective (Wilson, 2015, p. 101). In contrast, it is a monumental mistake to conclude that something as complex as large societies can self-organize on the basis of individual profiteering (Wilson, 2015, p. 108-109).

Larger societies function well thanks to proximate mechanisms that emerge through cultural evolution at the interface with genetically evolved mechanisms. Intentionally designed mechanisms such as laws, constitutions, etc. are institutionalized at this interface. In addition, however, there are unknown

mechanisms that are characterized by a kind of invisible-hand quality (Wilson, 2015, p. 114). At this point, proximate mechanisms such as trust, solidarity, culturally historical narratives and worldviews, etc. could play a significant role, in addition to design principles. As Ostrom's CPRs groups already illustrated, proximate mechanisms of successful prosocial groups are characterized by their inherent diversity. Therefore, it is important to focus on the different adaptation processes to the corresponding environments (Wilson, 2015, p. 145; Bosworth et al., 2016).

Solidarity

Cooperation, prosociality, and solidarity (Laitinen & Pessi 2015; Rothstein, 2016; Rothstein, & Uslaner, 2005) are currently being studied from a multidisciplinary perspective. Solidarity exists between individuals and groups (Laitinen & Pessi, 2015, p.3) in two distinct forms, namely “robust” and “expressional” solidarity (Taylor, 2015, p. 129). The analysis of these two concepts of solidarity focuses on the motivation behind morally based actions. Robust solidarity is strongly normative and associated with positive obligations. It is characterized as solidarity *with* a group. Expressional solidarity, on the other hand, is *toward* a group of distant others.

Four conditions must hold for robust solidarity: common interest with a group, identification with the group, empathy, and mutual trust. Common interest defines solidarity as a relationship characterized by specific forms of empathy, group identification, and trust. Identification with the group must involve mutual recognition. Empathy consists in being affected by the situation of other persons or at least being willing to be affected. Mutual trust is considered the last condition for solidarity. It is reinforced by the three other conditions, which results in the specific trust of robust solidarity (Taylor, 2015, p. 131).

Expressional solidarity occurs when one or more of the four conditions is unidirectional. Unlike the obligation inherent in robust solidarity with a group, one of the characteristics of expressional solidarity is commitment and engagement. A common interest is not a connected interest, but a parallel interest in the common interest of a group. The disposition to empathy entails - without being reciprocated - the same commitment or engagement of the individual in both forms of solidarity

(expressional and robust) as does the identification with the group. Trust is manifested in the demonstration of oneself as trustworthy in the eyes of the group to which one feels solidarity (Taylor, 2015, p. 139).

Trust

Trust can also be understood as a proximate mechanism of cultural evolution and plays a central role in the two solidarity concepts mentioned above. From a psychological perspective, trust is multidimensional and includes affective, behavioral, and cognitive elements (Kassebaum, 2004, p.13). As a social process, trust promotes and supports cooperation and is part of every interpersonal interaction. Trust requires a willingness to be vulnerable, is experience-based, and is acquired early in the course of life. It is future-oriented, reliability-oriented, ensures the ability to act in uncertain situations, and is recognizable by specific behavior (Schipper & Petermann, 2011, p.246).

In addition to the psychological dimension of trust, the sociological, political, and behavioral-economic significance of trust are increasingly coming into focus (Acedo-Carmona & Gomila, 2014; Bergh & Bjørnskov, 2011, 2014; Jordan, et al., 2016; Rothstein, 2013; Zak & Knack, 2015; Zak & Kugler, 2011; Sønderskov & Dinesen, 2016). Sociologically, there is a distinction between personal and system trust, since the increasing complexity of the present has made system trust indispensable in addition to interpersonal trust in order to cope with this complexity. Sociologist and systems theorist Niklas Luhmann interprets the problem of trust as a problem of risky "advance payment" (Luhmann, 2017, p. 27-28) in the horizon of uncertain future perspectives. In this context, the necessity of trust is linked to the freedom of action of others. At the individual level, trust exhibits the peculiarities of being something internal or internally grounded (*Innenfundierung*); thus, inner security replaces outer security and increases tolerance of uncertainty (Luhmann, 2017, p.30). System trust is based on the confidence that the respective system works. Positive experiences with the stability of the system thereby reinforce trust in a circular way of feedback. In addition to the learned, experience-based trust mechanisms, however, there is also the experience of dependence on the system. This is usually associated with the experience of not being able to see through the individual

processes, although they are basically transparent (Luhmann, 2017, p. 55-56). Trust is accompanied by numerous supporting mechanisms of learning, symbolizing, controlling, and sanctioning. In summary, Luhmann emphasizes that trust depends on, but cannot be traced back to, other parallel reduction mechanisms, for example those of law, organization, and, of course, language (Luhmann, 2017, p. 103).

In addition to the psychological and sociological perspectives, research in social neuroscience and behavioral economics provides more in-depth insights regarding the modulating factors of trust. Based on the biochemical processes of trust modulation, the American neuroeconomist Paul Zak describes trust as "chemical" (2011, p. 143), with social norms, one's developmental history, and current events having an impact on trust. This occurs, among other things, through modulation of oxytocin (OT) release. Conversely, testosterone significantly decreases interpersonal trust (Bos et al., 2010). Furthermore, functional magnetic resonance imaging (MRI) data have shown that trust and distrust (Schipper & Petermann, 2011, p. 249) are distinct constructs that span different brain regions and therefore elicit different strengths of responses.

Empathy

Apart from the proximate mechanisms of solidarity and trust, empathy also plays a central role (Taylor, 2015; Petermann, 2013). In addition to verbal communication, social competencies, in particular, ensure our social interaction. "Mentalizing", "theory of mind", or "cognitive perspective taking" enables insight into different constructions of reality and views of others. The capacity to share the feelings of others is known as empathy and describes the competence to "resonate with the emotional states of others" (Singer & Klimeki, 2014, p. R875). In this regard, an empathic response to suffering can result in two types of reactions: empathic suffering, also referred to as "empathic distress", and compassion in the form of concern and care. Empathic distress represents a highly aversive and self-oriented reaction to the suffering of others. It is accompanied by withdrawal tendencies and self-protection. Compassion, on the other hand, is characterized by a sense of concern for another's suffering and it is accompanied by the motivation to help.

Compassion means feeling for the other rather than feeling with them (Singer & Klimecki, 2014, p. R875).

In general, the question is whether one can resonate with everyone, or whether there are preferences. In the context of social behavioral sciences, phenomena are described in which the thesis of "parochial altruism" (Hein et al., 2010, p. 149) is counteracted. This thesis states that help and support motivated by empathy are more likely to be provided within one's own ingroup. Results of social neuroscience indicate that the decision to help or not to help results from the interaction of two competing motivational systems. Which of the two systems dominates in a concrete helping situation seems to be determined by the evaluation of the person suffering: According to this, the social evaluation of a person has a significant influence on prosocial behavior. Reputation, social esteem, and recognition play a role in cooperation mechanisms (Nowak, 2011, p. 219; Wilson, 2015, p. 107) and might be related to the function of narratives.

Narratives

Narratives and information play a central role in evoking trustful and empathic feelings, attitudes, and actions - or the opposite (Ostrom & Walker, 2005, p. 6). For example, experimental studies by Zak (2015, p. 4) found that emotionally appealing narratives inspire post-narrative actions. Hein et al. (2010) came to similar results with their ingroup and outgroup studies: Information and evaluations about persons in distress and situations of suffering were decisive for whether assistance was given - independently of the ingroup or outgroup affiliation of the person concerned.

Theoretical interdependence

Currently, two positions exist on the origin of prosocial behavior. On the one hand, moral-ethical motivation is viewed as playing a central role on the psychological level. On the other hand, environmental conditions are held responsible for the emergence of prosocial behavior. Thus, in the context of institutions and value orientations, a sociological debate is continued transdisciplinarily, and as a result, the limits of the respective represented positions become apparent (Lowndes & Roberts, 2013; Lundberg, 2014; Rothstein, 2016, 2012, 1998). This antagonism could

be largely eliminated because both constructs have inherent behavioral elements as well as psychologically and/or morally motivated elements (Bosworth et al., 2016). Solidarity, trust, empathy, and narratives and their consequences include decidedly behavioral aspects: Solidarity has action components in both its robust and expressional manifestations (Taylor, 2015). When defining "trust," Kassebaum (2004, p.14) explicitly refers to its behavioral elements. Empathy could be differentiated, particularly by social neuroscience, into the two distinct constructs of empathic distress and compassion. In particular, compassion was directly associated with prosocial behavior (Singer & Klimecki, 2014). Regarding the consequences of narratives, the release of oxytocin serves as an example of evidence for the direct consequences of prosocial behavior.

Conversely, game-theoretical and behavioral-economic research results on cooperation mechanisms showed that individual-psychological/social-psychological or moral-ethical elements of generosity, of the withdrawal of individual interests, and of forgiveness proved to be successful strategies (Nowak, 2011; Hein et al., 2010). The strictest and most decided position on a separation between behavioral levels and motivational-psychological elements is taken by evolutionary biology. From this position, it is primarily social environments that promote or constrain prosocial behavior, rather than groups that excelled in strong empathy or were based on social norms of selflessness. Instead, the most successful CPRs groups were the ones which could defend themselves against actions that benefited some individuals at the expense of others within the group (Wilson, 2015). The question of whether they are motivated by psychological mechanisms which are considered altruistic is, from this perspective, to be decided solely by means of empirical investigation. However, Wilson (2015, p.70-71) also points to the importance of ethics, recognizing ethics not only at the individual level, but at the group and societal level, as a supporting mechanism of prosocial behavior.

In summary, it seems legitimate and useful to consider the aforementioned aspects in a complementary way and to integrate arguments of seemingly contradictory positions. This can be justified theoretically because Eisler's construct could be sharpened by expanding caring economics to include aspects of cooperation. Eisler's

(2007, p. 114-116) conscious decision not to focus on cooperation in her conception is based on biographical and ethical reasons and is therefore justified on the one hand. On the other hand, the conception of caring economics proposed above gains perspectives through the extension which supports precisely the pragmatically action-oriented approach underlying Eisler's concept.

THE COVID-19 PANDEMIC

Currently, the Covid-19 pandemic is confronting the world with challenges of unknown dimensions. These challenges require measures that cannot be overcome with the usual strategies of action. Using the extended caring economics approach, the following theoretically grounded conclusions can be drawn.

In evolutionary biology, the prevailing position in current discourse is that cooperation has evolved the human species (Nowak, 2011) - in contrast to the assumption that human behavior is predominantly selfishly motivated. Consequently, it stands to reason that the pandemic can also be successfully managed through cooperation. The design principles of Ostrom (2003) can give direction to equitably manage the common pool resources of health, treatment, and vaccination.

Nationalisms and exclusionary solidarity efforts at the country level cannot help to control a virus which ignores all boundary lines. What appears to be imperative to solve this problem is multilevel selection. Cooperation is required on a global level, since it would be counteracted by dysfunctionalities at lower levels (national and individual interests). America First etc. are counterproductive attitudes and cannot help contain the pandemic. Diagnosis, treatment, and vaccination efforts must be initiated across country and socioeconomic boundaries - for example, vaccination opportunities for all countries at acceptable prices, regardless of whether they are industrialized nations or are in the global South.

Solidarity, either robust or expressional, is inevitable in the face of the Covid-19 pandemic. Whether it is expressed robustly or expressional depends on one's

situation and on the way in which one is affected. The border between robust and expressional solidarity is fluid in that it depends on whether one has been infected oneself, whether one works in the health-care system, whether one is already ill and (presumably) immune, and/or in which country (along with its respective current pandemic situation) one is located. The same holds true for any indirect economic, social, and psychological impact caused by the drastic measures taken to combat the pandemic. Exclusionary, national solidarity is not an option.

Given the invisibility of the virus, trust appears to be a key element in the Covid-19 pandemic. Interpersonal trust and system trust are equally relevant. The complete uncertainty of who has been infected with the virus and where the infection took place requires a risky “advance payment” (Luhmann, 2017, p. 27-28) on the other person to behave in a way that does not endanger oneself, despite the fundamental freedom to act. One must be able to trust that others will comply with the rules of conduct so that one is not infected oneself in the event of contact. However, this internal foundation of security would not be sufficient because of the existence of defectors, which can be found in all mixed groups. In this respect, forms of mistrust, prudence, and control seem to be essential and a necessary reason, regardless of the attentiveness of others, to adhere to all protective measures for oneself as well. In view of the complexity of the pandemic and its properties that transcend system boundaries, system trust is currently an indispensable factor in sustaining all social, economic, and political life. System trust requires that there is fundamental confidence in the functioning of the health-care system so that diagnostics and treatment can be ensured and financed. The infrastructure must be in place - medical and nursing - as well as the necessary medication and equipment. System trust also includes the trust that one will not be excluded from treatment because of a specific characteristic in case of an emergency situation through triage, etc. As another example, the same applies to the economic system. One should be able to have faith that the economic system will save society from collapse and the individual from demise through aid programs such as short-time work schemes, emergency relief, and economic stimulus programs.

Empathy, understood as the response to the feelings of others, plays a role in the context of the pandemic in many respects. On the cognitive level of the theory of mind or perspective taking, the comprehension of the situation of another person is made possible, whether they are infected and/or ill, part of a risk group, employees, or members of the health-care system. Thanks to findings from social neurosciences, empathy could be further broken down to two different dimensions and constructs, which are also located in different areas on the neuronal level. In this context, compassion is the emotional state that enables a person to feel for someone and is characterized by concern and care for the other - as well as a strong motivation to improve the well-being of the other. Compassion is not only inherent in conceptions of solidarity in general, but enables prosocial, caring actions for others in the context of the health-care system, as well as in the context of the support systems that keep life going during the pandemic: volunteer shopping and visiting services, tutoring, etc. Compassion is the emotional factor that intrinsically motivates prosocial action. Moreover, neuroscience and behavioral economics studies have identified empathy as empathic suffering and stress, which, as a result of observing the suffering of others, activates the same pain centers in the brain of the observer as are activated in the sufferer. Since phenomena of withdrawal and burnout have been identified with this form of distress, particularly in health care and social care, caution should be exercised with regard to empathic distress in the context of the pandemic. This is a danger especially for hospital staff in acute and intensive care units, and should be prevented, if possible, by focusing on compassion. In view of the staff shortage, especially among nursing staff, but also the increasing number of infections among all medical staff, it is important to prevent empathic stress through attentiveness and targeted management strategies (Petzold et al., 2020).

In our media-driven world, narratives and their meanings play an increasingly important role. This also refers to the behavior towards one's own ingroup or outgroup. Experiments in social neuroscience and behavioral economics have shown that information about the people in an outgroup can influence one's own behavior in terms of whether or not one behaves prosocially toward a member of the outgroup (Bernhardt & Singer, 2003). In the face of the pandemic, expressional solidarity and prosocial behavior toward the outgroup are relevant at the transnational level in the

context of treatment and resource allocation, on the one hand. On the other hand, it is also necessary on the behavioral level in relation to adherence to hygiene measures. Depending on the nature of the narratives about individuals who do not directly belong to one's own ingroup, information should, according to theory, motivate people to act in solidarity and in a considerate, prosocial manner. Studies on behavioral economics have shown that information which succeeds in attracting attention in the brain can initiate a facial expression mode and subsequently trigger prosocial behavior (Zak, 2015). What kind of narratives and information circulate in the context of the pandemic is a critical factor in the management of the pandemic - because negative information has an impact, too.

Eisler's societal vision of caring economics acquires current plausibility in view of the Covid-19 pandemic. In addition to the aspects mentioned so far, Eisler's feminist approach also becomes visible and is strengthened. On the one hand, this is evident in the importance of stereotypically attributed "feminine" values such as empathy, concern, care, mindfulness, consideration, willingness to forgo, etc. during the pandemic. On the other hand, it is also evident in the unequal gender representation in health-related and social occupational fields, as well as in the low monetary gratification and esteem by society. This aspect forms a central argumentation in Eisler's call for comprehensive consideration of female-dominated areas of economic performance, such as private household performance (especially child raising and care for the elderly) and social occupational fields, in the gross domestic product (GDP) and gross national product (GNP) measures (Eisler, 2007, p.85). The successful management of the pandemic in female-ruled countries is also particularly noteworthy. The Nordic countries Denmark, Norway, and Finland are regularly cited in this regard, in addition to New Zealand (Chamorro-Premuzic, 2020). Female leadership, and especially swift and rigorous action, are emphasized - as opposed to male government officials who trivialized and downplayed the crisis. Although the gender aspect is repeatedly addressed in the media, there are only sporadic references to cultural traits, as in the *Forbes* article by Chamorro-Premuzic: "For instance, cultures that see leadership as less masculine may not just be more likely to have women in charge, but also more likely to act in empathetic, collectivistic, altruistic, and risk-averse ways, all of which reduce the damage of a contagious

virus.” Despite extensive multi-perspective commentary (Illner, 2020; Weichert, 2020), it was barely brought up that the majority of the countries mentioned were under a social democratic regime or led by a social democratic government (Esping-Anderson, 1993) - at least three successful countries being Nordic states (Farrar, 2020). The "cultural traits" outlined above (empathic, collectivistic, altruistic, and risk-averse dispositions) correspond not only to the countries mentioned, but especially to the "Nordic Model," (Maass, 2015) which in itself provided a kind of template for caring economics.

CONCLUSION

This article demonstrates that there are numerous intersections between the two theoretical conceptions of caring economics and cooperation. In a theory-guided manner, the elements which, by extension, function as the central operative mechanisms of caring economics are identified: cooperation, robust and expressional solidarity, interpersonal and system trust, empathy as theory of mind, and empathic stress or compassion, as well as their biochemical and neuronal processes. Furthermore, the role of narratives and their mechanisms of action are outlined in the context of the aforementioned aspects.

As Norway and Finland are among the 10 most successful nations in epidemic containment, it can be shown that the extended caring economics conceptualization makes it possible to capture the complexity of the pandemic in an even more comprehensive analytical manner. In particular, cooperation in the context of evolutionary biology justifies containment measures on a global scale. Trust and solidarity not only play a prominent role in the Nordic countries, but are reflected in the literature on pandemic management - as well as the gender aspects in the context of political leadership and welfare regimes. Thus, the (extended) conception of caring economics gains even stronger persuasiveness in the light of the Covid-19 pandemic.

Based on the identified theoretical assumptions of this article, the following issues could be of interest for further investigation:

Control, monitoring, and sanctions play an important role in contexts of cooperation and trust - on a theoretical level as well as empirically concerning the Covid-19 pandemic: On the one hand, Ostrom and Luhmann argue for the necessity of applying, or at least providing, control and sanctions in addition to trust and cooperative design principles. However, Nowak's game-theoretical experiments have shown that sanctions are not a successful and recommendable strategy of cooperation. Eisler's conception of caring economics also emphasizes partnership structures and forms of mutual respect, with hierarchies seen as supporting structures for growth and development. In addition to the theoretical positions, it will be of interest - possibly only retrospectively - to see which measures, based on which preconditions, proved successful in the course of the pandemic and its existential threat (Huck, 2021).

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