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Advancing Institutional Humanomics^{*}

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Abstract

This paper introduces *institutional humanomics* as a new research area within institutional economics, highlighting not only the diversity of human nature explored by humanomics but also the virtues of markets and other organizations that serve two noble purposes: cooperation for mutual benefit and sustainability transitions. Institutional humanomics advocates for: (1) a methodological shift toward recognizing the entanglement of facts and values; (2) a focus on how capability evolution relates to the learning of actors and is influenced by both value and institutional diversity; (3) the possibility that actors may become responsive mechanisms to institutions through the formation of habits; (4) the role of emotions in sustaining institutions; (5) the influence of social comparison within social interactions; and (6) the role of ideology in suppressing opportunism and fostering moral judgment.

Keywords

Institutional humanomics, Human nature, Mutual benefit, Sustainability transitions

1. Introduction

This paper aims to humanize institutional economics by constructing a theoretical framework for *institutional humanomics*. At the outset, it seeks to go beyond the Max U model of human action, characterized by rational choice based on deliberation and utilitarian calculation, and to understand the diversity of human nature — including the use of language — advocated by humanomics (e.g., McCloskey, 2016, 2021; Smith, 2018; Smith and Wilson, 2019). Then, drawing on the spirit of Ronald Coase (e.g., Coase, 1984), the goal is to

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reclaim the diversity of institutions and real human beings in the real world, and to explore the co-evolutionary processes of institutions and human actors, using enactivism — particularly, “non-radical” enactivism, which aims to integrate shared mental processes and shared mental models (Frolov, 2023) — as a foundation.

These research questions have been brought to light broadly through an examination of institutional economics and, more narrowly, through the comparative institutional analysis (hereafter, CIA) of Masahiko Aoki (e.g., Aoki, 2001; Taniguchi, 2024a). In particular, CIA attempts to analyze the equilibria that are collectively generated by actors, as players in games (*homo ludens*), who, subject to bounded rationality and opportunism, attempt rational choice under the influence of social contexts (e.g., Aoki, 2001, 2010; Greif, 1998, 2006; Taniguchi, 2022, 2024a; Taniguchi *et al.*, 2024).

This paper is structured as follows. Section 2 delves into humanomics to deepen our understanding of the diversity of human nature. Section 3 positions institutional humanomics as a new field of institutional economics research, rooted in humanomics’ emphasis on human nature’s diversity, and outlines its key features. Finally, concluding remarks are presented.

2. Understanding the diversity of human nature through humanomics

To understand the diversity of human nature, we must explore humanomics more deeply. In particular, Vernon Smith and Bart Wilson (hereafter, SW) argue that Adam Smith’s *The Theory of Moral Sentiments* (Smith, 1759/2009, hereafter, *TMS*) serves as a valid model for humanomics — a term they coined to describe the study of human social and economic betterment based on the virtues of benevolence and justice (Smith and Wilson, 2019). SW introduced the term to describe the human challenge of living simultaneously in ‘two worlds, the personal social and the impersonal economic’ (*ibid.*: 2). Drawing on Sugden’s (2021) interpretation of humanomics, it is understood that *TMS* provides the foundation for a unified science of human social and ethical life, while *The Wealth of Nations* (Smith, 1776/1994, hereafter, *WN*) applies this unified science to economics.

The core of SW’s humanomics can be simply summarized as follows:

For the science of economic betterment in the twenty-first century to be a study of *humankind*, it must be likewise be an inquiry into *human social betterment* (Smith and Wilson, 2019: 207, emphasis added by the authors).

Thus, humanized economics, or what might be termed humanomics, should be a study focused on both humanity and the improvement of human society. In this vein, we will propose an actor model and its extended version, considering both the ethical human growth of actors and the institutional evolution that promotes the common good.

There are two points worth highlighting here. First, not only does sympathy form the experimental foundation for rule-following behavior in humans and the evolutionary basis of sociality, but justice, rather than benevolence, is the essential foundation for the survival of society, with benevolence being merely ornamental (Smith, 2018). Sugden (2005: 56) uses the term ‘fellow-feeling’ to express the mutual interdependence of emotions. That is, ‘one person B’s fellow-feeling for another person A is to be understood as B’s lively consciousness

of some affective state of A's, such that B's consciousness has similar affective qualities to A's state.' The imaginative identification with others that fellow-feeling is only partial, differing from empathy, which implies complete identification (Sugden, 2002).

Second, as the impersonal world of economics studied by SW expands, institutions become indispensable for maintaining human cooperation (e.g., Fehr and Fischbacher, 2004). In this respect, both humanomics, which emphasizes human fellow-feeling and justice, and institutional economics, which focuses on maintaining human cooperation through institutions, need to co-evolve, possibly coalescing into what can be called institutional humanomics. As Simon's 'scissors' metaphor suggests (e.g., Frolov, 2023; Simon, 1990; Taniguchi, 2024a), the focus on the micro-macro links between actors and their environment — including institutions — is of significant importance (e.g., Taniguchi, 2024a,b; Taniguchi and Fruin, 2022).

Such a focus can also be seen in economics as a moral science, as represented by Alfred Marshall, which emphasizes both the growth of macro-level wealth and the resolution of poverty, as well as micro-level human development (e.g., Marshall, 1961). Especially, Marshall seemed to be seeking an understanding of an economic system supported by realistic human behavior, assuming the diversity of human nature, in order to restore the reality of humanity to economics (e.g., Coase, 1984, 2012; Taniguchi, 2024b; Taniguchi and Fruin, 2022). Regarding this, John Maynard Keynes argued that for Marshall, the solution to economic problems was nothing less than a prerequisite for humans to develop and practice higher capabilities, not the application of hedonic calculations (Keynes, 1972: 170).

Furthermore, for Marshall, not only human growth but also the practice of everyday life and business by real humans carried great significance (Marshall, 1898). While he may have believed in utilitarianism, characterized by the rational calculation of pleasure and pain, in the 1880s, he came to disregard it in his later years (Keynes, 1972). In other words, he rejected the idea of engaging in monetary activities purely to satisfy physical desires without considering the ethical aspects of humanity (Collini *et al.*, 1983). Keynes also rejected utilitarianism, which reduces human nature to rational calculation, and advocated economics as a moral science that takes ethical aspects into account (Keynes, 1972).

On the other hand, Amartya Sen, positioned in the intellectual lineage of Marshall and Keynes, argued that a proper balance should be achieved between the engineering approach of 'Max U economics,' which emphasizes self-interest and rationality, and the moral science approach, which values broader ethics and well-being (Sen, 1987). Sen also criticized the many economists who ignored Adam Smith's discussions of poverty, sympathy, ethical issues regarding human action, and rules of conduct, distorting Smith's broader view of humanity. Furthermore, Sen (2014) argued that justice and identity are inseparable and that individuals must transcend identities tied to specific groups they identify with.

According to Coase, who respected and was intellectually influenced by Marshall, the view that Smith advocated a human image of *homo economicus*, who pursues self-interest solely and rationally, is mistaken (Coase, 1994: 116). Even if humans in the real world are dominated by self-love, this does not mean that they completely lack concern for others. Smith admired self-interest only within a system that also included virtues like courage, temperance, justice, and love; he never separated self-interest from these other virtues (e.g., McCloskey, 1996).

Thus, Coase (1994) argued that it is misleading to emphasize the so-called Adam Smith Problem, which suggests inconsistencies or contradictions between *TMS* and *WN* (e.g., Viner, 1941). Meanwhile, SW, aligning with Coase's perspective, argued that 'our own

experience has gradually deepened our understanding that a unifying principle of social science exists in Smith's two great works' (Smith and Wilson, 2019: 3). Smith (2018) further asserts that *TMS* is essential for conveying the implications of *WN* as one of Adam Smith's contributions to understanding human nature, and that Adam Smith himself considered the former superior to the latter.

Coase (1994) also recognized that the strength of markets lies in their ability to harness self-interest effectively, while also being mindful of the role that benevolence and moral sentiments play in sustaining the market. He supported Smith's assertion that human action is accompanied by folly. Humans, characterized by diversity, possess self-interest, benevolence, moral sentiments, and even foolishness in their behavior.

However, the engineering approach of Max U economics, heavily reliant on deliberation criteria, has discarded human nature's diversity through its natural-scientific approach, resulting in 'the poisoned apple of rationality' (Boulding, 1969: 11). This approach has reduced the diversity of human nature solely to rationality and deliberation in a way suitable for constructing mathematical models and measurements, turning fundamentally incalculable uncertainties into conveniently calculable risks (Taniguchi and Fruin, 2022; Taniguchi *et al.*, 2024).

On the other hand, McCloskey (1996) criticized Paul Samuelson, who defended Max U economics based on mathematical proofs, along with Lawrence Klein, who emphasized statistical significance, and Jan Tinbergen, who advocated economic policy formulation based on social engineering. She identified them as turning economics into a pseudo-science, akin to a house of cards, and called for ethical changes in economics, emphasizing the need for virtues in the market.

Bruni and Sugden (2013: 161) also discussed the virtues of the market in relation to mutual benefit. They argued that 'the telos of the market is mutual benefit. Thus, market virtues will apply in other domains of human life that are understood as cooperation among equals for mutual benefit and ... thereby provide the environment in which the 'social feelings of mankind' can develop the telos of the market lies in mutual benefit.' Thus, the virtues of the market are cooperation aimed at mutual benefit.

In contrast, Max U economics is based on utilitarianism, rationality, and individualism, ignoring the internal aspects of humans that generate cooperativeness, intentionality, values, and morality, as well as the diversity of human nature (e.g., Etzioni, 1988; Felin and Foss, 2011; Klamer, 2001).

According to Gintis (2006: 124), the rational choice model based on Max U can be represented as the 'beliefs, preferences, and constraints' model (hereafter, BPC model), where an actor maximizes their preference function not only by adhering to the material constraints, information limitations, and other restrictions they face, but also by accounting for their own expectations about how their actions will affect outcomes (i.e., internal informational representations of the relationship between actions and results). Gintis does not believe that the BPC model necessarily excludes the possibility that actors may consider the well-being of others, pay attention to justice, or adhere to norms of honesty and trust.

As McCloskey (2016) argues, language is essential to explaining both the game and the institutions related to it. Humanomics emphasizes the importance of human language and conversation, which rely on ethical commitments that go beyond Max U, asserting that the rules of the game only make sense when they are expressed through language (e.g., McCloskey 2016, 2021; Smith 2015). In fact, markets require not only language and conversation but also the persuasion and trust that arise from them (McCloskey, 1996). Markets that

constitute civil society demand reciprocity, trust, and mutual respect (Bruni and Sugden, 2008). Through language and conversation, values are created, and these values can influence human behavior (Klamer, 2003; Taniguchi *et al.*, 2024). In this sense, research on the realization of values at multiple levels, including individuals, organizations, and nations, will be necessary (Klamer, 2017).

3. Advancing institutional humanomics

We propose to call the study of institutional economics with solid human models, which focuses on the virtues of the market *and* other organizations that enable cooperation for mutual benefit and sustainability transitions, *institutional humanomics*. It aims to present a model of the actor that takes into account the diversity of human nature, as well as an expanded actor model that incorporates ethical human growth as well as capability and institutional evolution.

Along with Bruni and Sugden (2013), it is important to note that the organizing principle of facilitating cooperation for mutual benefit can extend beyond the realm of *markets* (e.g., Aoki, 2010; Barnard, 1938; Hodgson, 1996; Simon, 1991). In particular, various types of organizations have become increasingly important as humanity enters the sustainability era (BCG *et al.*, 2023), characterized by global externalities that transcend national borders — such as war, climate change, food crises, and nuclear disasters — which cannot be addressed by markets alone.

In this era, companies are increasingly expected to play a critical role in ensuring their survival and in connecting the planet to future generations by addressing a variety of complex problems known as ‘grand challenges’ (e.g., George *et al.*, 2016; Howard-Grenville, 2021; McGahan, 2021; Taniguchi *et al.*, 2023). In other words, companies have the potential to contribute to solving global externalities — issues that neither markets nor governments alone can effectively address (e.g., Hart, 2020; Hart and Zingales, 2022). The restructuring of companies and the political economy to enhance the sustainability of the Earth and humanity — referred to as the sustainability transition (e.g., Markard *et al.*, 2012; Taniguchi *et al.*, 2023; Taniguchi *et al.*, 2024; Truffer *et al.*, 2022) — has become essential.

Institutional humanomics can be positioned as an ethical endeavor in institutional economics, aiming to understand institutional diversity, implying various types of organizations as a means by which real humans with diverse natures collaborate for mutual benefit and sustainability transitions.

In general, institutional humanomics (1) supports a methodological paradigm shift toward the integration of economics and ethics within a world where facts and values are intertwined, (2) focuses on capability evolution, which is grounded on learning by actors, and recognizes that the capability evolution of actors is influenced by both value diversity and institutional diversity, (3) highlights that actors may become responsive mechanisms to institutions through the formation of habits, (4) focuses on the role emotions play in maintaining institutions, (5) notes that actors engage in social comparison in the context of social interactions, and (6) emphasizes the role of ideology in restraining opportunism and promoting moral judgment.

3.1. The integration of economics and ethics

Methodologically speaking, a paradigm shift is necessary from the Robbinsian fact-value

dichotomy (Robbins, 1932), which seeks to separate economics from ethics, to the Putnamian fact-value entanglement (Putnam, 2002), which permits their integration. Such a change would require adjustments in the expectations of not only economists and graduate students (who may identify as the producers of economics), but also of policymakers, business executives, and professionals (who may identify as the consumers of economics), who are influenced by these theories and policy recommendations (Taniguchi *et al.*, 2024).

The realization of such a paradigm shift at the epistemological (E) level requires changes at the ontological (O) level involving both micro-level individuals and meso-level organizations, and changes at the value (V) level. In particular, the economics profession (O) needs to critically examine over time its value-based understanding of ‘what economics is and ought to be’ and, if necessary, revise the methodologies used to conduct economic research based on these reflections (V). Furthermore, the public (O), as consumers of economics, need to learn about diverse approaches in economics (E) to avoid being misled by professional economists (Robinson, 1955/1956). Through this process, their expectations will be revised and updated over time.

3.2. Capability evolution

Learning by actors implies capability evolution. It is important to note that the idea of capability evolution here reflects Winter’s (2013a: 500) view. Humans and their organizations acquire more capabilities in various ways than they had in the past. They not only become able to do more things, but also to do certain familiar things on a larger scale. Thus, ‘capabilities evolve.’ Particularly, as humans undergo the process of growth, they create and acquire more capabilities over time, thereby realizing capability evolution.

Moreover, we must acknowledge that human capability evolution does not occur uniformly across different fields — whether in academia, technology, or industry (Nelson, 2003). For instance, while large sums of tax money may be allocated for the development of rockets to send humans to the moon, there tends to be hesitation in directing tax funds toward improving the well-being of impoverished residents living in ghettos (e.g., Nelson, 1977, 2011). As Nelson’s famous ‘moon and ghetto’ metaphor suggests, particularly in the context of nations, we must consider how political involvement over time influences the policy-making process that prioritizes resource allocation in certain fields over others. Thus, the creation and transformation of dynamic political economies hold significant importance (Nelson, 2022).

The capability evolution of actors is influenced by both value diversity and institutional diversity (Taniguchi *et al.*, 2024). Anderson (1993) argues that human freedom requires a variety of social domains that embody diverse value judgments. In other words, value diversity (V) that ensures individual freedom also requires institutional diversity (O) in the real world. We should restore moral science in economics (E) and pay heed to the interdependence between institutional diversity at the ontological levels of individuals, organizations, and political economies (O), and value diversity at corresponding levels, such as expectations, methodology/purposes, and religion/ideology (V).

3.3. Actors

Actors may become responsive mechanisms to institutions through the formation of habits. Winter (2013b) presents the ‘Dewey Triangle,’ which illustrates how human action is shaped by the interaction of three factors: deliberation, habit, and impulse. Meanwhile, Simon (2001) argues that even goal-oriented rational action depends on inherited responses and

that rationality cannot be entirely separated from factors like emotions and impulses.

Particularly, humans form habits as they engage in learning through the use of language and conversation. Habits refer to the tendency of agents to repeat well-practiced behaviors in repetitive situations, thereby reducing the need for deliberation (e.g., Becker and Knudsen, 2017; Wood *et al.*, 2002). Given that the continued acquisition and modification of habits may be considered a fundamental reason for human existence, habits are seen as essential in understanding the relationship between institutions and actors (Hodgson, 2004).

Consequently, the cognitive system associated with rational inference linked to deliberation eventually gives way to the cognitive system of emotional intuition linked to habit (e.g., Kahneman, 2003a,b). This allows actors to respond quickly and automatically to stimuli from the external environment. However, as habits form, deliberation becomes less necessary, and agents may become mechanical response mechanisms to institutions (e.g., Aoki, 2010; Taniguchi, 2024a).

At this point, we need to heed McCloskey's (2021: 40) warning:

Economists don't understand the difference between action and reaction. ... Action is about ends and value judgments. Positivism is about reaction, not the free will of human action. React to a budget line, the rules of the game. No hope or love or courage. No free will.

In other words, humans cannot fundamentally be reduced to mere reactive machines.

Furthermore, Langlois (1990: 692) also expresses skepticism toward viewing humans simply as reaction machines. Langlois points out that Simon's perspective on bounded rationality treats actors as robots programmed to follow simple heuristics, assuming *a priori* that actors follow rules for the purpose of satisficing. He suggests the need to explain rule-following not from the perspective of automatic reactions but rather from the perspective of appropriate actions by non-automated, real-world humans who possess only limited knowledge and cognitive capabilities.

On the other hand, Jensen and Meckling (1994: 5–6) argue that the human action assumed by economists — 'assigning probabilities and expected values to various actions and choosing the action with the highest expected value' — is extremely mechanical, neglecting human capabilities such as wisdom and creativity. Thus, Jensen and Meckling draw attention to human capabilities and advocate REMM (Resourceful, Evaluative, Maximizing Model), a general model of human action that adds Postulate 4 ('Individuals are resourceful'): 'Individuals are creative. They are able to conceive of changes in their environment, foresee the consequences thereof, and *respond* by creating new opportunities' (*ibid.*: 5, emphasis added by the authors).

However, while their REMM model refines Max U by paying attention to human capabilities like wisdom and creativity, it remains essentially no different from Max U in that it still deals with responses to external environments. Therefore, both REMM and Max U deviate from Coase's spirit and lack a realistic portrayal of human beings as they exist in the real world.

To transcend such limitations, Lindenberg (1990) introduced the model of the *homo socio-oeconomicus*, which characterizes actors by the RREEMM (Resourceful, Restricted, Evaluating, Expecting, Maximizing Model) by incorporating two institutional factors: constraints and expectations. However, as revealed by humanomics, it seems that there is still room to model not only reactions to stimuli but also actions based on purposes and

value judgments, considering the diversity of human nature. Through their intentions and actions, actors can bring capabilities to organizations and institutional arrangements that influence the outcomes, potentially enabling capability evolution (e.g., Felin and Foss, 2006; Teece, 2009, 2017).

The methodology of positivism, which emphasizes ‘as-if assumptions,’ such as optimization and natural selection, has supported mainstream economics (e.g., Alchian, 1950; Friedman, 1953) and has argued for rational choice based on deliberation. Moreover, Harsanyi (1969) defends the rational choice model, which considers human values from the perspectives of preferences, payoffs, and purposes, despite recognizing that economics has been dehumanized due to the widespread use of robust scientific methods, such as mathematical models and statistical techniques borrowed from the natural sciences.

On the other hand, evolutionary economics and capability theory have mainly focused on habitual behavior in explaining institutional phenomena (e.g., Nelson and Sampat, 2001; Nelson and Winter, 1982). In this regard, Veblen (1919/2012) viewed institutions as widely embedded habits of thought in society and criticized the inertia and conservatism whereby human habits of thought persist indefinitely unless compelled by environmental changes. According to Veblen, despite this persistence tendency, institutions can grow by cumulatively adapting habits of thought in the context of environmental changes. Veblen (1914/2018) also referred to innate and persistent tendencies related to human nature as instincts and aimed at institutional research to understand the growth of habits and customs conditioned by both instincts and the environment. According to him, instinctive action, characterized by purposeful intelligence, is distinct from tropismatic action, which implies mechanical responses to stimuli.

3.4. Emotions

The role of emotions in maintaining institutions as social norms should also be considered, and emotions associated with social norms are typically embedded in a network of expectations (e.g., Elster, 1989, 1990, 1991). For norms to be social, they must be shared by others, and their maintenance must be influenced by the approval or disapproval of those others (Elster, 1990).

Bruni and Sugden (2008) use the term ‘moral’ to describe the general principles governing approval and disapproval in society, and they call the moral orientation towards relationship-building in the market ‘fraternity.’ According to them, fraternal relationships are neither self-regarding, taking the ‘I’ perspective, nor other-regarding, taking the ‘You’ perspective. Instead, under such relationships, each agent takes the perspective of ‘We.’ They state that:

Other things being equal, fraternity is easier for individuals who are similar in age, education, social class or cultural background. Still, if civil society is to be fraternal, its members must be disposed to be friendly with people who are different from themselves in all sorts of ways — including how rich they are (*ibid.*: 53).

The core of their argument is that such fraternal relationships can be explained in terms of team reasoning and the collective intentionality that arises from it.

In situations of social interaction requiring cooperation or coordination, each member of a team is required to act as a member of the team, fulfilling their role in the team’s collective actions. Each member participates in realizing collective action by performing

their role in a set of actions, knowing that if all members act accordingly, the team's objective will be achieved. When it is said, 'You should do A,' A represents the set of the team's actions, and when a member i performs action A_i , i recognizes that A_i is part of A and performs it with the expectation that the other members will perform their respective actions that are part of A (Bruni and Sugden, 2008: 50).

Social norms can guide people's actions in a certain direction by targeting non-compliant individuals for social ostracism (e.g., Aoki, 2001, 2010). In situations of social ostracism, emotions like shame arise from contempt by others, leading to the maintenance of social norms. For contempt and shame to arise, there must be a belief that it is bad to be despised (Elster, 1999). Conversely, once individuals become targets of social ostracism, they may become emotional and engage in extreme behavior (Elster, 1998). Thus, thoughtful care through appropriate governance is required not only for those who do not comply with norms but also for those who have become targets of social ostracism.

Ullmann-Margalit (1977) regards obligation norms as essential among social norms and lists their characteristics as (1) both adherence to and deviation from obligation norms involve significant social pressure, (2) obligation norms are seen as indispensable for the proper functioning of society, and people hold expectations regarding this, and (3) there is an expected friction between the demands of obligation norms and individual interests or desires. However, if the functioning of the market is supported by norms that promote trust, honesty, and even obligation, then a paradox may arise. Namely, the more actors adopt Max U economics as their guiding principle, the less capable the market economy becomes of maintaining its sustainability (Etzioni, 1988). Thus, as exemplified by the virtue of the market according to Bruni and Sugden, morality and obligation that transcend self-interest become indispensable for society.

3.5. Social comparison

It is considered essential that actors engage in social comparison with others in order to gain appropriate self-evaluation and identity in the context of social interactions (e.g., Festinger, 1954). When they find themselves in disadvantaged situations and perceive those situations as unfair, emotional reactions are triggered (Pan and Yang, 2023). Generally, social comparison includes upward comparison, which refers to comparing oneself with superior agents or groups, and downward comparison, which refers to comparing oneself with inferior agents or groups (e.g., Suls *et al.*, 2002; Wills, 1981). Upward comparison does not lead to the expected sense of relative deprivation to the extent that downward comparison brings about not only relative satisfaction, meaning a sense of relative fulfillment, but also relative deprivation. These differences in pathways generally reflect the difference between rationality and emotion in agents (Pan and Yang, 2023: 10).

Recently, digital technologies, such as Instagram, YouTube, and TikTok, which appeal to human vision, have accelerated social comparison by enabling actors to create and present glamorous images of their daily lives and compare themselves with others. Many individuals engage in social comparison daily by trying to present themselves as better than reality through social media while simultaneously observing others' images. People are both performers and content producers on social media (Frolov, 2023). Moreover, with the help of generative AI, such as ChatGPT, DALL-E, and Canva, actors are now able to easily solve various problems. Generative AI can learn patterns and relationships from vast amounts of data using algorithms and create original content.

These novel physical technologies, in conjunction with social technologies such as

institutions, have likely enhanced actors' problem-solving capabilities as extended cognitive assets (e.g., Aoki, 2010). However, they have also dramatically altered the modes of communication and coordination between actors and between actors and artifacts. The remarkable capability of digital technology has likely significantly increased uncertainty through the threat of singularity, where technology surpasses the control of actors. Thus, in the VUCA world of the 21st century, the CD gap between actors and their environments (e.g., Heiner, 1983; Taniguchi, 2024a; Taniguchi and Fruin, 2022) may have become increasingly pronounced.

In modern times, actors with multiple identities establish a single identity by choosing a specific community whose social status they desire to identify with and work on evolving the necessary capabilities. However, social media appears to accelerate the creation of narrow, community-specific cognitive biases, amplifying similar opinions among similar actors within echo chambers and contributing to institutional regression (e.g., Frolov, 2023; Sen, 2006).

In our view, when considering realistic behavioral assumptions about humans in institutional economics, it is necessary to take into account: (1) Human action is influenced by various elements such as deliberation, habits, impulses, and emotions; (2) Actors use language and visuals in the context of strategic interactions with others, supported by institutions and technologies, while also engaging in social comparisons through being observed by others; (3) Actors with multiple identities establish a single identity by choosing a specific community whose social status they want to align with, resulting in echo chambers that amplify similar opinions among similar actors and potentially causing institutional regression. This consideration leads to a more general view of human nature that acknowledges its diversity. Furthermore, attention must be paid to ethical human growth through capability evolution, as discussed later (e.g., Felin and Foss, 2011; Foss and Lindenberg, 2013; Marshall, 1961; Taniguchi and Fruin, 2022).

Given that human action can be influenced by diverse human natures beyond mere deliberation, expanding the rational choice model, which is one of the requirements of institutional economics (Langlois, 1986), holds certain significance. For example, focusing on non-consequentialist action in the public domain, which is not limited to self-interest-based consequentialism, and reflecting human motivations in models such as Gintis's diverse human models (Gintis, 2016) is quite relevant.

3.6. Ideology, opportunism, and moral judgment

Let us focus on the role of ideology in suppressing opportunism and promoting moral judgment. As suggested by the representative behavioral assumption of opportunism in institutional economics, humans might excessively pursue self-interest in social interactions, leading to free-riding on others' efforts. However, Aoki's CIA has demonstrated that social capital created in past games by *homo ludens*, as a playing agent, can suppress free-riding and promote cooperation through connections with other games (Aoki, 2001, 2010; Taniguchi, 2024a).

On the other hand, governments have worked to suppress free-riding by promoting ideologies connected to moral judgments regarding global justice and fairness through "education", propaganda, and symbols' (North, 1984a: 258). Ideologies are ubiquitous and necessary for individuals to rationalize the world (North, 1984b). They also affect the maintenance and change of institutions and are a crucial element in understanding the role of government (North, 1981). Denzau and North (1994) conceptualized ideologies as shared mental models within groups that can serve as guidelines for both interpreting and

structuring environments.

In this regard, as emphasized in CIA, ideologies are deeply connected to collective cognition representing systematic organization of cognition within groups (Aoki, 2010). When faced with uncertainty, humans engage in cognitive activities to create interpretations, which can be expressed in terms of myths and taboos (Denzau and North, 1994). Ideologies are involved in human incomplete information processing under uncertain environments (North, 1990). Here, the importance of the micro-macro links is reiterated.

Especially, the success or failure of ideology's role in suppressing the free-rider problem depends on whether it can promote moral judgments in agents and generate cooperative collective behavior, contrasting with utilitarian calculations aimed at self-interest (North, 1981). The positive role of ideology in suppressing excessive self-interest is deeply connected with promoting specific moral judgments by providing grounds for desirable norms (e.g., Voronov and Weber, 2016; Voronov *et al.*, 2022) and reflecting ideal self-images related to what kind of person one wants to become (Voronov and Weber, 2020).

Furthermore, as Bénabou and Tirole (2010) argue, when actors focus more on self-image concerning how they appear to others, especially in contexts involving prosocial behavior, they become more concerned with whether such actions are purely altruistic or simply based on monetary utilitarian calculations. Akerlof (2020) suggests that human thinking is generated through stories, and actors are motivated by the stories they tell themselves. Therefore, ideologies can have a positive effect in suppressing self-interest through actors' self-images and stories (Taniguchi and Takabe, 2023).

Moral judgments, closely related to ideologies, are likely to promote the realization of institutions for a higher common good beyond self-interest, and involve the process of determining what is good and what is bad (e.g., Treviño, 1992; Treviño *et al.*, 2014). This process involves practical reasoning based on fundamental purposes linked to intrinsic values — such as sustainability, common good, intergenerational justice, and human growth — when actors act (Donaldson, 2021). It is important to note that intrinsic values differ from material instrumental values such as material gain, profitability, and competitive advantage.

Moreover, Simon (1991: 43) also mentions that organizational purposes can sometimes take precedence over profits as a factor in enhancing organizational efficiency. Specifically,

The primacy of profit as the enforcer of organizational efficiency is replaced by organizational goals, combined with organizational identifications and with material rewards and supervision, all of which motivate employees to work toward these goals.

Thus, Simon pointed out the possibility that intrinsic values might surpass instrumental values.

On the other hand, North has focused on the positive role of ideology in promoting moral judgments and deviations from utilitarian calculations based on self-interest. However, ideology can also play a negative role. As Bénabou (2008: 324) argues, ideology as a 'collectively sustained reality distortion' concerning the appropriate scope of government and markets can lead to 'collective reality-avoidance and adherence to comforting myths' (*ibid.*), which might hinder necessary reforms. Particularly, the issue of 'ideological defenses' (*ibid.*: 336) may arise when national performance declines, leading to delays in reforms until the situation worsens beyond remedy.

Bénabou and Tirole (2006) demonstrate that multiple equilibria can arise through the interaction between ideology and public policy. In societies where many actors hold the fair

world ideology that success results from effort, policies favoring low taxes and less reliance on government redistribution are preferred. Conversely, in societies where many actors hold a pessimistic view that success depends on luck, there is a stronger tendency to seek government redistribution, which can hinder incentives for high-level efforts. Bénabou and Tirole suggest that the complementarity between ideologies chosen by actors lead to two equilibria: the American-type equilibrium characterized by the spread of fair world ideology and laissez-faire public policies, and the European-type equilibrium characterized by the spread of pessimism and welfare state policies.

Thus, institutional humanomics must be grounded not only in instrumental values related to the pursuit of self-interest based on traditional utilitarian calculations but also in the ethical and moral considerations of intrinsic values influenced by the positive and negative effects of ideology (e.g., Klammer, 2017; McCloskey, 2022; Sen, 1987; Taniguchi and Fruin, 2022; Taniguchi *et al.*, 2023). Additionally, as previously suggested, there is a need to focus on the process of ethical human growth through capability evolution (e.g., Felin and Foss, 2011; Foss and Lindenberg, 2013; Marshall, 1961; Taniguchi and Fruin, 2022).

In understanding such processes, the goal framing theory (e.g., Foss and Lindenberg, 2013; Lindenberg and Foss, 2011) suggests that the goals of actors evolve from lower-level 'hedonic' ones as biological entities, to middle-level 'gain' ones based on utilitarian calculations, and to higher-level 'normative' ones oriented towards joint production. In other words, humans may pursue either localized instrumental values or overarching intrinsic values depending on their surrounding environment and stage of human development. The commitment to pursuing joint goals by individuals is a phenomenon observed specifically in cases where they enter into agreements (Bruni and Sugden, 2008).

In particular, Bernacchio *et al.* (2024) define joint production as the collaborative engagement of actors within organizations in integrating diverse inputs, ensuring transparency towards the outside of the organization, and engaging in purposeful coordination and cooperation to create value. Moreover, they view joint production as an ethical practice, arguing that excellence in products and services at the organizational level, as well as the excellence of individuals' lives, are now linked to higher-level societal sustainability and can contribute to human flourishing. Specifically, excellence in products and services at the organizational level leads to the common good at the higher societal level. On the other hand, excellence in individuals' lives at the organizational level contributes to a rich life for individuals through the evolution of their capabilities at the lower individual level. The common good at the societal level, in turn, leads to a rich life for individuals through the ethical practice of joint production. The ethical practice of joint production requires excellence standards, which are rules determining what is 'worthy of execution as right or appropriate' (*ibid.*: 162). Such multilevel ethical practices involving individuals, organizations, and society require moral judgments by agents.

Building on the spirit of Coase (1984), institutional humanomics aims to reclaim the diversity of institutions and human behavior in the real world. It seeks to explore the co-evolutionary processes of institutions and actors, using non-radical enactivism — which integrates shared mental processes and models (Frolov, 2023) — as its foundation.

Methodologically, institutional humanomics strives to integrate fact and value (Putnam, 2002), in contrast to positive economics, which argues for their separation. This drives the search for a balance between positive economics and moral science through a transdisciplinary approach, recognizing that human beliefs and actions are inevitably connected to values (Taniguchi *et al.*, 2024).

A focus on the micro-macro links between humans and institutions in the real world is essential. We should consider the following:

At the V level: *The diversity of values, including religion, ideology, methodology, and more, which shape human beliefs and actions.*

At the O level: *The diversity of institutions, encompassing the complementary roles of communities, firms, nations, and other entities in the real world.*

At the E level: *Beyond the Walrasian market — an approximation of the Anglo-American system — we should engage in the CIA of diverse, evolving institutions (e.g., Aoki, 1995, 2001; Greif, 2006; Langlois, 2023; Taniguchi, 2024a; Williamson, 1999, 2000). The development of institutional humanomics requires the diligent work of institutional economists who effectively apply comparative and historical analysis, alongside mathematical tools, while emphasizing the realism of assumptions. This follows the tradition of thinkers like Marshall and Coase (Taniguchi, 2024b). It is important to recognize that the economy can be understood as a system of diverse institutions evolving in a world of uncertainty and non-ergodicity, where boundedly rational and opportunistic actors are influenced by diverse values, and the diversity of human nature is a crucial factor.*

Here, we must offer a caveat. Given its reliance on game theory as an analytical language, CIA can be interpreted as a variant of Max U economics, grounded in rational choice theory. McCloskey (2016: 15) provides a somewhat simplified critique of game-theoretic institutional analysis based on rational choice. According to game theory, institutional analysis is possible even without language or meaning, as long as actors focus solely on playing the game, attending only to budget constraints and preferences.

However, our actor models suggest that humans — capable of using language and various communicative devices — strive for ethical growth at the micro level, which in turn drives institutional evolution at the macro level. This reflects the evolution of capabilities that facilitate cooperation for mutual benefit and sustainability transitions. These two noble purposes should be central to the work of institutional humanomists, who seek to address the grand challenges facing humanity in a world characterized by uncertainty and non-ergodicity.

4. Conclusion

In this paper, we positioned institutional humanomics as a new research area within institutional economics, emphasizing not only the diversity of human nature revealed by humanomics but also the virtues of markets and other organizations that enable cooperation for mutual benefit and sustainability transitions. Broadly, institutional humanomics supports: (1) a methodological shift toward the entanglement of facts and values by integrating economics and ethics; (2) a focus on how capability evolution relates to the learning of actors and how it is influenced by both value diversity and institutional diversity; (3) the possibility that actors may become response mechanisms to institutions through the formation of habits; (4) the role of emotions in sustaining institutions; (5) the influence of social comparison in social interactions; and (6) the role of ideology in suppressing

opportunism and promoting moral judgment.

Building on these points, we should construct a model of actors that accounts for the diversity of human nature, ethical human growth, and institutional evolution. However, it is clear that the institutional humanomics proposed in this paper is still in its nascent stages and requires further refinement.

We hope that many scholars will engage in this theoretical work, and that we will see progress in the evolution of capabilities and institutions that facilitate mutual benefit and sustainability transitions at both the global and national levels, grounded in ethical human growth.

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