The Significance of Meta-Reflexivity for the Rise of Planetary Consciousness in the Context of European Society

TEA GOLOB & MATEJ MAKAROVIČ [1]

Abstract The paper considers the notion of planetary consciousness as a conceptual and analytical tool for re-thinking how societies imagine identity, belonging, governance, and responsibility on a global scale. It explores how the concept has been evolving in systemic perspectives rooted in the interconnectedness of life as observed by science, civic-activist perspectives emphasising mutual responsibility and need for cooperation, as well as more spiritual views including visions of Earth as a sacred being. It provides an empirical proxy assessment of planetary consciousness in a nationally representative sample from Slovenia. Additionally, it explores the relationship of planetary consciousness with individuals' specific mode of meta-reflexivity and discusses the practical relevance of this awareness for human behaviour.

Keywords: • planetary consciousness • meta-reflexivity • sustainability • European society • structural equation modelling

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1 Introduction

The article considers the notion of planetary consciousness as a conceptual and analytical tool for re-thinking how societies imagine identity, belonging, governance, and responsibility on a global scale. In that regard, it explores how the concept has been evolving in systemic perspectives rooted in the interconnectedness of life as observed by science, civic-activist perspectives emphasising mutual responsibility and need for cooperation, as well as more spiritual views including visions of Earth as a sacred being. The rising interest in the concept in various domains of human society – ranging from philosophy, scholarship, science, religions, and bottom-up civic movement – is placed in the context of one of the integral features of modernisation, i.e. increased universalism. By building on theoretical foundations, the study aims to provide an empirical proxy assessment of planetary consciousness in a nationally representative sample from Slovenia. And finally, it explores the relationship of planetary consciousness with individuals' specific mode of reflexivity as proposed by Archer (2003) – namely, meta-reflexivity – and discusses the practical relevance of this consciousness for human behaviour.

The article envisions a planetary consciousness as a transformative framework for current unsustainable, unpredictable, and rapidly changing societal conditions. It deploys a systemic perspective highlighting interconnectedness and emergent properties of social, technological and biological worlds, considering humans as an integral element of the wider Earth-system. It departs from local, national and global level of thinking about human life by placing it into the planetary context. Thus, it argues for a *planetary turn* seeing humans as inevitably interconnected with its ecosystem and the Earth (Elias & Moraru, 2015) – which is crucial for holistic understanding of the current societal challenges that go beyond economic and political domains (Riberio Mendes, 2023).

Planetary consciousness offers an alternative to predominant perspectives on the growth imperative and linear progress expansion established by classical modern developmental paradigm, which paved grounds for anthropocentric views having a devastating impact not only on biosphere but human societies as well. It has become indisputable that massive extinction has already taken place (Rothman, 2017), and by the end of the century, almost a third of plant and animal species could cease to exist (Román-Palacios & Wiens, 2020). One can hardly neglect the massive effects of the unbalanced exploitation of natural resources, heavy pollution, deforestation and other unsustainable practices on human population as well. For instance, fossil fuel-related air pollution has contributed to shorter life-expectancies on a global scale (Azimi & Rahman, 2024). Ecological crisis calls for a complete redefinition of the relationship between people and nature moving beyond the anthropocentric perspective, and simultaneously fully considering the role of digital technologies in human societies.

Digital and transport technologies combined with capitalist markets have made the humanity more interdependent than ever. Electronic media and internet have provided the greatest potentials so far for connecting people all over the globe. More recently, these audiences have been increasingly exposed to messages produced by generative artificial intelligence. One can observe various concerns around the use of artificial intelligence, increasing digitalisation and smart technologies in terms of future employment and job skills demand, but also in terms of proper skills to confront the spread of fake news and/or actively engage in social action. Individuals are continuously facing demanding challenges when navigating personal and social aspirations, relationships and life projects. It has become a daily task to define the sense of the self, which often leads to personal crises. The pursuit to building one's identity through everyday decisions—what Giddens (1991) describes as reflexive self-construction—has become anything but straightforward.

While human societies are increasingly interconnected through global consumption patterns and shared cultural influences, social cohesion has eroded (Green et al., 2011). Neoliberalism rooted in the last decades of the previous century promoted individualism that contributed to the further rise of excessive isolation, alienation and anomie. More recently, this triggered a variety of collectivist backlashes – with the strong tendencies of people to belong, to re-establish a community – both in physical and on-line domains. However, these communities are too often grounded in opposition to the "Other". Echo-chambers and filter bubbles based on on-line and classical media are reproduced contributing to increasingly extreme and exclusive perspectives (Del Vicario et al., 2016, 2017). On the macro-level, this leads to social and political polarisation within and between nation states, geopolitical instability, and armed conflicts. Together with escalating environmental crisis, technological and market forces, the effects of these are intertwined with social inequalities and further marginalization of vulnerable groups.

Through a simultaneous emphasis on connectedness with other people, with other living beings and the planet, the notion of planetary consciousness can be seen as a source of the much-needed connectedness without the othering – while harnessing the technological potentials to intensify and deepen this connectedness. Consequently, it offers the most comprehensive response not only to ecological crisis but also to the combination of rapid technological advancements, excessive individualism and major social clashes. It provides a theoretical and analytical framework for understanding how to empower and reconnect humans — with one another, with technology, and with the broader natural world – when it is based on their critical, reflective deliberations. Moreover, it offers a narrative foundation to bring people together to act collectively for achieving environmental sustainability, social solidarity, and responsible utilization of technological advancement, including AI. It provides a new lens for considering the human role in both societal and natural systems by emphasising humans as key actors in

creating future developmental paths towards a more universalistic and connected modern society.

In this regard, planetary consciousness should be associated not only with a particular value orientation and an enhanced awareness of the interconnectedness of all life on Earth, but also with individuals' ability to critically observe and reflexively deliberate on the social order, their own behaviour, and their collaboration with others. Drawing on M. Archer, we see reflexivity as an inner dialogue and intrinsic feature of the human psyche – enabling humans to consciously and strategically orient their actions, activating their personal emergent properties and thus changing the existing social structure (M. S. Archer, 2012). Through the on-going process of discernment, deliberation and dedication occurring within their reflexive inner dialogues, individuals are analysing their emotions, ideas, concerns and motives for actions.

Though everyone is reflexive, there are different modes of inner dialogue, corresponding to different individual and social contexts. In traditional societies, the dominant mode of reflexivity is the communicative one, implying that one needs confirmation from significant others before acting. Modern society – involving dense industrialization, urbanization, capitalist markets, and individualization - influences various transitions in everyday life. Consequently, it encourages autonomous reflexivity, which implies relatively self-sufficient individuals striving for personal development, successful career, and higher social status at any cost. The dynamics and uncertainties of the late modern society encourage a specific mode of critical reflexivity – called meta reflexivity. Meta-reflexivity is also crucial for igniting social morphogenesis (M. Archer, 2017), namely intended, reflexive social change.

Meta-reflexivity entails a potential to go beyond the established narratives, ideologies, identities, and requires specific values and normative ideals providing alternatives to the existing socio-cultural settings. As Archer said, it requires a driving ultimate concern referring to certain cultural ideal that fuel individuals' deliberations and actions (M. S. Archer, 2003). To achieve more sustainable and favourable living conditions, a specific cultural ideal oriented toward the planetary good is needed.

The article therefore merges the concept of the planetary consciousness with the particular value orientation and ultimate concerns on the one hand, and the capability for critical reflexive thought on the other. In addition, we examine how planetary consciousness is influenced by the ways how people interact with digital technologies. Planetary consciousness is thus placed in the context of technological changes, which imply both threats and opportunities. We assume that individuals' choices regarding the primary purposes for which they use digital technologies also influence their capacity to develop planetary consciousness. We hypothesise that exploiting the learning potential of digital

technologies is likely to have more empowering effects than their excessive use for gaming and other forms of leisure.

2 Planetary consciousness in the context of modernisation trends

There has been a proliferation of ideas on planetary consciousness in a variety of social domains. Those ideas reflect the claim for structural and a narrative transformation emerging as a response to the devastating effects of the Anthropocene – the era, in which human actions are recognised as essential in influencing the planet. The contemporary perspectives on planetary consciousness often merge scientific, philosophical, ecological, activistic and spiritual perspectives, which can be placed in the context of the modernisation trend of universalism.

While rationalisation (Horkheimer & Adorno, 2007; Weber, 2013), individualisation (Beck et al., 1994; Parsons, 1979), specialisation and structural/functional differentiation (Durkheim, 1997; Luhmann, 1995; Parsons, 1951) have been often emphasised as key aspects of modernisation, a very significant long-term trend of increasing universalism has often been ignored. For its better understanding, we can refer to the classical modernisation theory of Talcott Parsons (Parsons, 1951) who saw it as a prevailing modern alternative to (traditional) particularism in his list of pattern variables. On the top of that, he specified "universal norms" as one of his "evolutionary universals" (Parsons, 1979). For this analysis, we can define universalisation or increasing universalism *as a trend to apply the increasing number of principles that have been applied within the in-group to the increasing number of others* – thus transcending the original in-group.

Unlike the ancient kingdoms and empires, the national "imagined communities" (Anderson, 2016) produced by modernity have mostly transcended the divisions between predominantly particularistic tribal and local communities, or between the (divine or God-given) rulers and their subjects. They produced nation states and their citizens – adhering to broadly the same principles and subordinated to the same "universal norms" (Parsons, 1951). But the modern trend of universalism has not ended with that. It took more than 150 years from "the rights of the man and of the citizen" to granting full human status and corresponding universal principles to all humanity with the Universal Declaration of Human Rights. The latter has established this kind of universalism at a declarative level while clearly remaining an unfinished and on-going project in practice.

Paradoxically, the same (predominantly Western) philosophical tradition that eventually led to unprecedented levels of globalised universalism at the level of humans as species has on the other hand established – perhaps also unprecedented – distance towards nature, especially when compared either to archaic animist or to Eastern religious and philosophical traditions.

Despite their current popularity, the ideas of planetary consciousness are nothing new. Their roots can be found in animistic views on life, while the idea that people are inextricably interwoven with the planet goes back to prehistoric periods. There are many myths, legends, and stories all around the world suggesting the interconnectedness of all living beings, and their reciprocity. In a rather equal distribution of social power within communities, agency was attached to stones, plants, waters, and more etheric beings or spirits of the natural world (Descola & Sahlins, 2014; Šmitek, 2019) – while humans were merely a witness to the all-encompassing flow of energies and identities.

With time, usually coinciding with the advances and socio-cultural patterns brought by the agriculture revolution and permanent settlement, the division between culture and nature has become more emphasised. For instance, in the ancient Greek culture, animistic experience was replaced by theoretical philosophical explanations of reality. The nature spirits became subordinated to the pantheon of gods that became anthropomorphic. Their organisation and interactions between humans and nature reflected the emerging stratification and a hierarchy of social order. The nature presented the domain of the pre-culture, and it was simultaneously the abode of deities (Harvey, 2006).

With established monotheistic religions, such as Christianity, all the numinosity was transferred to the idea of heaven. Natural cycles, deities and spirits were taken over by saints. Sacred sites and landscape geometry was appropriated by sacral buildings of the Church. Earth and its ethereal representations in the forms of fauns or pans became attached to the idea of the Devil. There has been a prevailing narrative, that what exists on Earth is sinful. While God owns everything, the nature is on men's disposal to be used and exploited. One can say that Judeo-Cristian tradition does not support planetary consciousness because divinity was banished from Earth thus asserting nature-divinity dichotomic relation.

The early modern era that followed has been imbued with materialistic values demanding disenchantment and detachment of nature while saying that reality is what you can see, touch, and measure. Already with Humanism and Enlightenment - that offered a bedrock for the modern through – the focus was shifted from God to humans. Those ideas maintained and often even reinforced the separation between civilisation and nature, subordinating the latter to the former. Cartesian dualism proposed that God's creation is divided into two separated realms: a matter that is shaping the natural environment and is subjected to physical laws that can be studied and a mind, which remains in the domain of God. A human has gained a pivotal role in understanding and studying the world surrounding us. The latter was crucial for the emergence of scientific thought and individuals' empowerment, but the condemnation of the nature and its subordination to humans continued. The materialistic view that sees the world as composed from parts has often left people disoriented and in search for a deeper meaning in their lives.

An early contribution to the re-appreciation of the planetary consciousness or even the idea of planetary consciousness has in fact been based on religion – in the idea of all-encompassing love and compassion, which is crucial in supporting planetary entanglement. This is also resonating in the ideas of Teilhard de Chardin, who was not only a scientist but also a priest. He suggested that human awareness was integral to the planet's evolution and it had yet to reach the final stage of consciousness convergence with the Earth. Like many subsequent contributions to this field, his perspective combines philosophical, scientific and spiritual dimensions – in his case derived from Christianity. He contributed to the notion of the noosphere (noos – mind in ancient Greek) that upgrades the concepts of geosphere and biosphere, which has inspired not only philosophical but also contemporary scientific endeavours.

Subsequently, the early modern anthropocentric perspective has become been increasingly undermined by growing interest in ecological movements, social inequality and quality of living, new aspects of spirituality, mindfulness, running away from the materialism and impersonal technologically driven society.

It has been argued (Dennis, 2015) that a spiritual-material worldview can lead to new insights into implications of a coherent conscious universe model for planetary society. Contemporary spiritual movements, including New Age and eco-spirituality are often deeply aligned with ecological and systems-based thinking. These ideas synthesise animistic topics and indigenous practices and find plausible philosophical grounds of and Eastern philosophies, such as Advaita Vedanta and Mahayana Buddhism that emphasize the oneness of life and the environment and see their separation as a distorting illusion (Garrison, 2019). Studies of indigenous sustainability practices across the world (Etchart, 2017; Stein et al., 2022) show a strong connection between planetary consciousness and sustainable, responsible actions and contribute to a vision of the planetary consciousness that entails not only inner transformation but it is also a collective moral imperative.

The reappreciation of indigenous knowledge has been essential in combating the current climate changes and related issues, as we can learn a lot from endorsing their perspectives. They have become relevant for legal and social sciences. The cases of the Ecuadorian and Bolivian Constitutional Chart, in which Mother-Earth is recognized as having, among other features, also a juridical status ('Ecuador First to Grant Nature Constitutional Rights', 2008), or a New Zealand legislation in 2017 (*Te Awa Tupua (Whanganui River Claims Settlement) Act 2017*, 2017) recognizing the Whanganui River as a legal person, are key milestones on which the European scholarship can draw upon. This is also consistent with Latour's position on climate change from the perspective of his Actor Network Theory with the inclusion of non-human actors (Latour, 2007). These processes are very much in line with the potential further expansion of universalistic trends – to recognise some of the universal principles previously reserved for humanity for non-human entities as well.

Recently, there has been a rich and interdisciplinary scholarship on planetary turn and planetary consciousness. For instance, Laszlo's manifesto (Laszlo, 2023), co-authored with prominent figures such as the Dalai Lama, emphasises the significance of transforming individual and collective values to build a sustainable and interconnected planetary community. Inspired by Latour's ideas, Chakrabarty's (Chakrabarty, 2021) argues for the need to distinguish between the global and human centred perspectives on the one hand and the planetary perspectives involving all life on the Earth on the other - seeing the latter as crucial in combating climate challenge. The ideas of planetary well-being has been thoroughly considered in the collection of studies edited by Elo et al. (Elo et al., 2023) combining areas of ecology, ethics, ontology, psychology, and social justice. Linking systemic with spiritual and ethical dimensions, Bentov (Bentov, 1988) and Rockefeller (Rockefeller, 1990) emphasise emphasizing interconnectedness and global ethics, while Naranjo's (Naranjo, 2020) work invites a shift from ego-centric to eco-centric awareness.

An important contribution in attaching planetary scale cognitive activity to other planetary systems, such as atmosphere, hydrosphere, cryosphere and lithosphere, can be found in the work of Vladimir Vernadsky (Frank et al., 2022). His perspectives echo in the contemporary ideas of Gaia hypothesis proposed by James Lovelock (Lovelock, 2005) and further developed by Lynn Margulis , presenting the Earth as a self-regulating, living system. This idea, while initially controversial, has been influential in framing Earth not merely as a passive environment but as an active, responsive entity. Recently, such perspectives have been considered in the astrophysics developing the concept of Earth intelligence by Frank et al. (2022), and cognitive sciences emphasising the idea global brain of the internet and global communication as developed by Peter Russell (Russell, 2008) and upgraded by Francis Heylighen (2013). In recent scholarship, one can find an interesting study by Brodziak et al. (2023) interpreting planetary consciousness as emerging from global networks, interpreting it as an emergent phenomenon analogous to human self-awareness - but on a planetary scale, which is facilitated by technological and social interconnections. All those seminal works hold a common denominator of recognising the integrity of Earth system and the emergent collective intelligence and defying the anthropocentric point of view. Observed from these perspectives, planetary consciousness transcends not only human tribalisms but also anthropocentrism and can thus be understood as the ultimate form of universalism.

The traces of trends of universalism that defies anthropocentric points of view in the contemporary western scholarship, can also be found in a holistic vision on interconnectedness, sustainability, and ecological wisdom by Fritjof Capra (2010). He emphasizes the need for balance and ecological awareness (Tao of Physics), while aiming to build sustainable communities by learning from ecosystems—interconnected communities of plants, animals, and microorganisms. In similar vein, there is an

important legacy of Rachel Carson (2022) revealing the dangers of chemical pesticides, and inspiring environmental consciousness and actions till nowadays. We should also mention Gregory Bateson, who expanded the concept of democracy to include the entire environment, alluring to the meaning of connections among various parts of the universe (Watras, 2015). Those systemic perspectives departed from the classical modern scientific foundations seeing all the natural and social phenomena as machines composed of parts, each having its own functions governed by predictable laws.

Therefore, planetary consciousness has offered a multidimensional framework for rethinking human identity and responsibility on a global scale not only for scholars and scientists, but also for civic actions and spiritual movements. The proliferation of ideas combining systemic thinking, philosophical and spiritual aspirations can be related to the current trends of modernity expressing the combination of unprecedented technological advancements and rapid social structural transformations that has created a cultural environment that is unstable and fragmented, making it difficult for coherent cultural narratives to emerge and take root (M. Archer, 2017).

Planetary consciousness can also be seen as a part of changes, which Grant (2017) defines as a shift toward collectivistic values, and purpose-in-life orientation. In his study, he draws on the Google's digitization of millions of books enabling to access the quantified analysis of culture through the Ngram Viewer (*Google Books Ngram Viewer*)- a massive corpus containing 5,195,769 digitized books or about 4% of all books ever published. Google's Ngram Viewer also indicate the trends in word frequency of planetary consciousness: appearing in the late 19th Century, reaching its first peak between the First and the Second World War and then starting its persistent rise from the movements of the 1960s.

Figure 1: Relative frequency of the phrase "planetary consciousness" and synonymous phrases in the Google corpus of English books from years 1800-2008

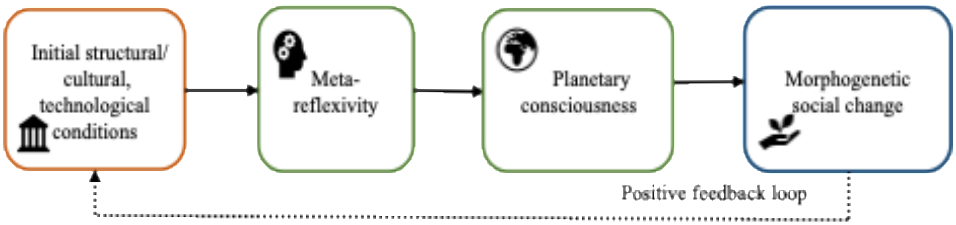
However, while these perspectives have the potential of expanding the trend of universalism and thus mitigate the present challenges (in a similar way as the nation-based citizenship responded to the challenges of early modernisation), a major caution is required. Production of new spiritual movements through uncritical, un-reflected, partly misunderstood older (or imagined) traditions can also be dogmatic, polarising, extremist – adding more fanatical and exclusive echo-chambers to the existing ones. In addition, fixed, isolated and dogmatic beliefs are hardly compatible with the dynamic nature of existing social and technological contexts. Failing to be dynamic and inclusive, approaching planetary consciousness may fall into similar traps as nationalisms, religions and other ideologies before it.

This article therefore merges the planetary consciousness with the particular value orientation and ultimate concerns on the one hand, and the capability for critical reflexive thought on the other – which is seen as a key mechanism in altering social settings (M. S. Archer, 2012) towards broader universalism. While inner dialogues tend to be rational, there is vast scope of emotions that influence individuals' prioritisation of certain issues and concerns and their consideration of alternatives. In the end of this process, some of the concerns are endorsed, while others become subordinated. By exercising reflexivity, individuals can deliberate and mediate upon a greater/deeper understanding of their position within structural and cultural setting, and better evaluate their concerns and resources needed to achieve them.

3 Planetary consciousness and meta-reflexivity: A case study of Slovenia

In the present study, we explore how planetary consciousness is related to individuals' specific mode of reflexivity as proposed by Archer (M. S. Archer, 2003)– namely, meta-reflexivity. With the research, we also intend to demonstrate how this concept can be applied to understanding its practical relevance for human behaviour, as we believe that the concept can serve as a catalyst for cultivating an inclusive social identity. Therefore, forging the identity that transcends divisions such as in-group versus out-group or the dichotomy between society and nature. By fostering a sense of unity that moves beyond harmful exclusionary identities, planetary consciousness is seen as the potential to counteract the rise of fear- and hate-driven identities that fuel political polarization and obstruct rational, democratic decision-making.

Figure 2: A tentative model of morphogenetic social change based on meta-reflexivity and planetary consciousness



This model is based on the morphogenetic approach (M. S. Archer, 1995) analytically disentangling social structure, culture and agency thus seeing every social outcome as an effect of their interplay. Morphogenesis occurs when agents elaborate on social/cultural context and consider their intentions and future concerns through reflexive internal conversation (M. S. Archer, 2003). Firstly, there are the initial structural conditions (institutional framework, individual's position in social structure and social relations) and cultural conditions (values, norms, beliefs, ideologies and other cultural artefacts), in which individuals are settled. Individuals elaborate on these initial conditions through reflexive thinking, which paves grounds for intentional action. The study assumes that meta-reflexivity influences the intensity of planetary consciousness, which can lead to the actions oriented towards social change embracing planetary turn.

Building on the theoretical foundations elaborated above, we propose the following hypotheses that guide our empirical study:
H1: Planetary consciousness can be operationalised and empirically observed as a unidimensional phenomenon.
H2: More meta-reflexive people are more likely to exercise higher level of planetary consciousness.
H3: Planetary consciousness is affected by the ways how people interact with digital technologies.
H4: Demographic features place people in different structural positions thus affecting their planetary consciousness.

While our research is based on the national case study it nevertheless reflects some wider trends in Europe and world-wide, as Slovenia can be comparable to several other EU countries. Being geopolitically positioned at the crossroads between the central, southeastern and Mediterranean parts of Europe, Slovenia is subject to a variety of socio-cultural influences from these regions—making it, at least to some extent, representative of the broader European variety despite its comparatively small size. Secondly, it is a case study exemplifying rapid social change. As a European post-communist country, it has experienced a quick shift from a comparatively predictable social environment,

maintained through communist rule, to sudden exposure to global neo-liberal pressures (Golob & Makarovič, 2017). Thirdly, in terms of development, it is close to the middle: between the more developed, established EU member countries, and the developing new European democracies. Among the former communist countries, it is particularly interesting because of its good starting position at the beginning of the democratic and market reforms (Crowley & Stanojević, 2011) and a comparatively successful transformation, integrating it into the wider European environment. This can be illustrated by the fact that Slovenia has been the first among the new member states that joined Europe in 2004 to adopt the Euro. Finally, it does not stand out in terms of sustainability when placed in the European perspective. While its precise positioning varies significantly depending on the criteria, it is mostly close to the European Union average.

4 Materials and methods

Our empirical study is based on the social survey on the Slovenian representative national sample of 908 adults. It was conducted between 4th and 12th of March 2024 using computer aided telephone interviewing (CATI) method.

We operationalise the concept of planetary consciousness for the use in a social survey questionnaire as a combination of three aspects, expressed through the three corresponding statements on "how much this is true for you personally" providing 6-level Likert scale-responses ranging from "not true at all" to "completely true":

- connectedness in a cosmopolitan sense going beyond belonging to specific groups of people: "you feel strongly connected to all people in the world"
- connectedness beyond anthropocentrism involving other living beings: "you feel strongly connected to all animals and plants in the world" and
- explicit feeling of oneness with the planet: "I feel to be one with the whole planet".

To assess individuals' meta-reflexivity, we have applied RMT question battery consisting of five questions as a proxy for reflexivity levels ranging from 0 (no reflexivity) to 20 (full reflexivity). The RMT has been explained more in detail and tested in our previous research (Golob et al., 2021; Golob & Makarovič, 2019). For this paper, we just briefly summarise that the items included in this scale consists of assessing the frequency of the following behaviours:

- plan your own future
- rehearse what you would say in an important conversation
- imagine the best and worst consequences of a major decision
- review a conversation that ended badly
- clarify thoughts about some issue, person or problem.

The second part of the RMT questions battery provides the proxy quantitative scores for the reflexivity modes, such as meta-reflexivity. The scores for the reflexivity mode range from 0 (minimum) to 80 (maximum score) and are calculated as a combination of reflexivity levels with the Likert-scale responses regarding the reported frequency of "considering the key priorities of your life and why you are doing what you are doing". We have also included the questions regarding the extent of using "computers, smartphones and other digital technologies for "social networks (e.g. facebook, instagram, whatsapp, twitter)", "playing videogames", "your work or formal education" and "informal learning and following the news". For each of these items, the respondents specified the numbers of daily hours.

Demographic features including gender, age, educational level, settlement type and income have been included as well.

5 Results

The responses to the questions referring to the three aspects of planetary consciousness – related to humanity, other living beings and the whole planet – are presented in Table 1. It is worth noting that for all aspects, majorities from 60 to 72 per cent are closer to fully attributing these statements to themselves than to fully rejecting them. Moreover, for all statements the percentage of respondents fully accepting the claim is higher than the share fully rejecting it. The most broadly acceptable claim is the one referring to the connection with the animals and plants. This may even indicate some kind of post-anthropocentric shift or deep divisions within humanity – as it feels easier to connect with other living beings than with "all people in the world". Feeling one with the planet makes people more divided than the other two issues – with the comparatively highest prevalences of people either fully rejecting or fully accepting the notion – and thus standing out in terms of the highest standard deviation.

Table 1: The presence of the aspects of planetary consciousness in the Slovenian national sample

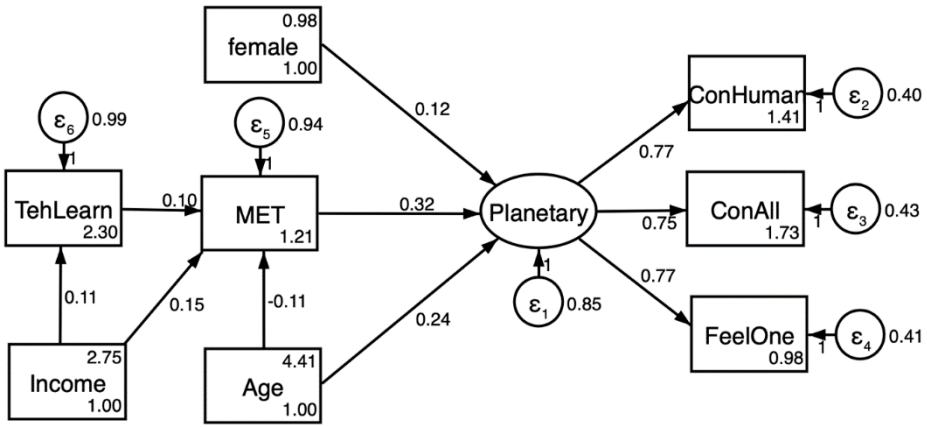
How much this is true for you personally…	Feel strongly connected to all people in the world	Feel strongly connected to all animals and plants in the world	Feel to be one with the whole planet
0 (Not true at all)	9.19	7.12	17.03
1	11.69	7.62	9.14
2	19.36	12.83	14.06
3	30.78	29.96	24.23
4	17.22	23.89	16.00
5 (Completely true)	11.77	18.59	19.54
Total	100.00	100.00	100.00
Mean	2.70	3.12	2.68
Std. deviation	1.43	1.43	1.68

Source: Own research and calculations.
Note: Relative frequencies and means are weighted (post-stratified) to match the structure of general Slovenian national population in terms of gender, educational level, age and settlement size. Nonresponses and "don't know" responses are omitted from the analysis.

Our further analysis shows that despite these differences the three aspects of planetary consciousness are highly correlated with each other and are clear indications of a single latent variable behind all of them. Their Cronbach Alpha equals 0.7976 and principal component analysis provides a clear one-dimensional solution with the single component explaining 71% of the total variance. This confirms H1 that planetary consciousness can be operationalised and empirically observed as a unidimensional phenomenon. This also allows us to operate with planetary consciousness as a latent variable in our subsequent analyses.

Using structural equation modelling, we test hypothesis H2 on the effects of meta-reflexivity to planetary consciousness, while controlling for the effects of the intensity of using digital technologies for different purposes (referring to hypothesis H3) and demographic features (referring to H4). After testing and discarding the insignificant effects, our model of the impact of meta-reflexivity to the latent variable of planetary consciousness, we develop the structural equation model presented in Figure 2. The effects of exogeneous variables to the endogenous ones are mutually comparable as they are reported in terms of standardised regression coefficients.

Figure 3: Structural equation model of the effects of meta-reflexivity, digital technology and demographic features to the latent variable of planetary consciousness



The model indicates a good fit. It is close to the saturated model (chi-square significance equals 0.186). Root mean squared error of approximation equals 0.020 with the 99.2% probability of not exceeding the threshold of 0.05. Comparative fit index equals 0.995 and Tucker-Lewis index is 0.992. Standardized root mean squared residual equals 0.02. The model, however, explains 15% of the variance of the planetary consciousness latent variable, demonstrating that quite significant variance of this complex concept remains unexplained.

We can confirm hypothesis H2, as meta-reflexivity (variable MET in Figure 2) turns out to be the single most important variable affecting the constructed Planetary consciousness variable. People demonstrating higher meta-reflexivity scores are significantly more likely to report higher levels of planetary consciousness.

We cannot confirm hypothesis H3 regarding the direct effects of the use of digital technologies (variable TehLearn) to planetary consciousness. No aspect of using digital technologies had the statistically significant effect that would go beyond the allowed 5% risk of obtaining our results with the corresponding beta coefficient being zero. We may suspect the existence of a slightly negative effect to planetary consciousness by extensive use of digital technologies for work or study, but the significance for the coefficient only resides with the 10%, i.e. not within the usually accepted 5% threshold. However, the extend of using digital technologies for informal learning and following the news has a positive effect on meta-reflexivity scores and – through them – indirectly contributing to greater planetary consciousness.

We can partly confirm hypothesis H4 – as far as it refers to the effects of age and gender. The effects of age are not straightforward. Younger people tend to be more meta-reflexive than older people: this way, being younger indirectly positively contributes to planetary consciousness through increased meta-reflexivity. However, when these effects are controlled for in our model, it turns out that the older people tend to report higher planetary consciousness. In other words, the youth is more likely to be meta-reflexive and – through that – also more inclined towards planetary consciousness. But when a young person in not meta-reflexive, she or he, would be less likely to express planetary consciousness than an older person.

Finally, women are more likely to express planetary consciousness than men. While the direct effect of gender is relatively smaller when compared to meta-reflexivity and age, it is still clearly statistically significant.

In addition, we should note another indirect effect – of income. While income levels have no direct statistically significant effect on planetary consciousness, they positively contribute to the probability of using digital technology for informal learning and following the news (which contributes to meta-reflexivity) and to meta-reflexivity itself (which contributes to planetary consciousness). In other words, though these effects are only indirect, more well-off people are in a better position to develop planetary consciousness.

In our analysis, we have also tested the possible effects of educational levels and settlement type, but they have turned out to be statistically insignificant. The same is true for all the other uses of digital technologies, i.e. for playing games and social networking.

6 Discussion

Planetary consciousness as a concept and value orientation offers a multidimensional framework for rethinking human identity and responsibility on a global scale. It connects various perspective, disciplines, and cultures, and it can serve as a compass—orienting humanity toward cooperation, humility, and respect for life in an interconnected world.

It is a concept that can challenge dominant anthropocentric and exclusivist perspective, legitimise responsible behaviour on individual level and transformative global policies on the macro level. These specific value orientations contain ideas that can glue human society together, transcend separations between humans, other beings, and the planet itself – thus bringing us back to the essence of being: to the core of the unconscious, emotional, instinctive existence, and back again – to the rational, reflexive thought.

In a world marked by rapid and unpredictable change, the mode of meta-reflexivity, is at the heart of shaping a sense of self and constructing a social identity. Based on critical inner dialogues, individuals can critically re-valuate the existing social setting and adopt specific 'stances' towards society enabling them to form ideas of favourable environments: natural, social or technological. This constitutes the micro-macro link referring to the 'active agent' (Archer, 2003), who is striving for social change to occur. In that regard, meta-reflexivity can contribute to new social formations based on morphogenetic processes in society. By exercising meta-reflexivity, individuals can deliberate and mediate upon a greater/deeper understanding of their positions within structural and cultural setting, and better evaluate their concerns and resources needed to achieve them.

Meta-reflexivity requires a driving ultimate concern referring to certain cultural ideal, which is fuelling individuals' deliberations and actions towards concrete social and environmental challenges. For this purpose, it is essential to become aware of the planetary interdependence and coexistence of all parts in the Earth's system - in which humans act as emergent entities with their own causal powers. Seeing humans as the integrative part of the biosphere and its planetary intelligence, we could also actively contribute towards better and more sustainable life on Earth – as we are emergent biological bodies and self-aware beings. In that regard, people can act altruistically not only within the existing social groups, to which they belong (Aronson et al., 2015; Tajfel et al., 1971), but in a wider planetary context.

It is therefore of great importance that we become aware of the need of new paradigmatic grounds defining our value orientation that emphasise that if we are not going to fundamentally change the ways of production, consumption and the underlying norms and values legitimizing social actions, our civilization – not the Earth itself – will cease. Our study shows that meta-reflexivity works as a precondition for new social practices on individual and collective level toward sustainability and planetary consciousness. However, meta-reflexivity is also conditioned by other factors, such as social embeddedness, which affects directly also the planetary consciousness. It is a great challenge how to activate and nourish planetary consciousness in the world of ever deepening economic disparities, ideological polarisation, and how to increase meta-reflexivity in that regard. One of the strategies could be in systematically incorporating both, the planetary consciousness and critical thinking into the strategic developmental document, school curricula, research projects, business models and civic initiatives.

It is crucial for these strategies and policies to be broadly inclusive. People who are – or feel to be – left behind, who experience increased relative deprivation, are less likely to be reflexive, but more likely to develop radical and polarising attitudes and to follow authoritarian and populist leaders. Individuals and groups that feel excluded may compensate their feelings of deprivation through supporting exclusion of other (even

more) marginalised groups; they might also care less for the well-being of other living beings in general. Confronting one's own grievances by attacking and blaming "the other" has been a very common historical phenomenon. Combining that with re-inventing mythological narratives based on exclusion and lacking meta-reflexivity is prevalent as well.

These challenges imply that the struggle for planetary consciousness would have no perspective as an elitist project that looks down on the "unaware" masses and ignores the sources of their deprivation. It can only succeed as a combination of inclusive, compassionate, grassroots movement on the one hand and policies that systematically address all types of economic, social and cultural deprivation, on the other hand.

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