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Beyond kindness: a proposal for the flourishing of science and scientists alike

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Abstract

We argue that many of the crises currently afflicting science can be associated with a present failure of science to sufficiently embody its own values. Here, we propose a response beyond mere crisis resolution based on the observation that an ethical framework of flourishing derived from the Buddhist tradition aligns surprisingly well with the values of science itself. This alignment, we argue, suggests a recasting of science from a competitively managed activity of knowledge production to a collaboratively organized moral practice that puts kindness and sharing at its core. We end by examining how a flourishing framework could be embodied in academic practice, from individual to organizational levels, and how that could help to arrive at a flourishing of scientists and science alike.

1. Introduction

A multifold crisis currently afflicts the potential of science to generate knowledge. The crisis manifests itself by compromising the quality of science, for example through ethically dubious research practices (Joynton and Leyser 2015) and a replicability crisis (Nosek et al. 2015). Furthermore, talent is leaving science (Gewin 2022) as ever more scientists are facing mental health concerns such as anxiety, chronic stress, and exhaustion (Loissel 2020). (Too) many struggle with precarious and short-term working conditions (Bahr et al. 2021; Brendan and Anfres 2016; Rahal et al. 2023) or power-abuse, exploitation, bullying, and harassment (Täuber and Mahmoudi 2022).

This opinion piece argues that an important common cause of all of these problems is a present failure of science to sufficiently embody its values.¹ And that one significant cause for this failure of embodiment, in turn, is the large-scale managerial transformation of the academic enterprise (Münch 2014; Brette 2022), leading towards increasing hyper-competition that has promoted (too) much ego-centric behavior and (too) little of the moral and collaborative behavior required for 'doing good science'. Initiatives to reverse some of these changes have faced difficulties in putting the respective value-centered frameworks into practice (e.g., Naddaf 2023), suggesting a gap between understanding a value and endorsing it in everyday life actions (Verplanken and Orbell 2022).

Here, responding to calls for a "kinder research culture" (Anonymous 2019; Russel and Foulkes 2019), we suggest an integrated value reform that builds on ideas of secular ethics such as promoted by the Dalai Lama (Gyatso and Norman 2010) or the compassion-based curriculum at Emory University (Ash et al. 2021). Going beyond kindness, however, we propose a universal ethical framework that supports *flourishing*, known in the Buddhist tradition as the *Bramaviharas* or the *Four Immeasurables* (Aronson 1999; Klein 2014) (Table 1). The *Bramaviharas* refer to a beneficial attitude or 'dwelling place' from which to observe and act. The boundless or 'immeasurable' scope refers to the idea that they support flourishing universally, in any situation, towards all parts of oneself as well as others.

¹ While literature in the social studies of science has emphasized the multiplicity of scientific values, which have been shown to change over time and across academic disciplines (Daston and Galison 2010; Smolka 2022), here we argue from a natural science position that natural science entails values akin to the Mertonian norms (Merton 1973 [1942]).

We argue that these *Four Immeasurable* values, viewed or reinterpreted a certain way, match remarkably well with the values and attitude of science itself. We show that an aspect of each value is core to how science functions qua science, that is, as a tradition that enables the growth of knowledge. Further, their underlying framework of flourishing acts as an antidote to the disruptive aspects of self-focused attitudes and behaviors that appear to evoke much of the current crises. Thus, more broadly, we offer flourishing as an alternative to the contemporary ego-focused competitive model of organizing science. A flourishing framework, instead, focuses on enabling people to work together well, and is thereby well aligned with core values of science itself. We argue that such a foundational re-alignment of how the process of science is viewed and approached can act as an orienting guide for iteratively finding and revising solutions to the current crises. Although intention is not action, having the vision from which to act may in fact still be more critical than any of the particular solutions proposed such as advocating kindness or open science themselves. We focus here on the natural sciences, but think the *Four Immeasurables* could equally support flourishing in other academic disciplines such as the social sciences and the humanities.

Values supporting flourishing	Description
<i>Impartiality</i>	the quality of not being biased or prejudiced
<i>Solidarity</i>	a benevolent attitude towards others
<i>Compassion</i>	an empathic concern for the suffering of others
<i>Empathetic joy</i>	delight in the achievement of others

Table 1: Overview of values that support flourishing

2. Values for a flourishing of science

The Oxford English Dictionary defines flourishing as to “grow or develop in a healthy or vigorous way, especially as the result of a particularly congenial environment”.² Before describing how the *Four Immeasurables* could aid the flourishing of science in the next section,

² <https://dictionary.cambridge.org/dictionary/english/flourish>

we first define them, aligning a traditional view of each value with a tentative interpretation within the domain of science.

Impartiality, or equanimity, is the virtue and practice of remaining non-attached, balanced, and even-minded without being biased or prejudiced. In this way, impartiality is consistent with a core epistemic value and attitude of science, namely, to see theory, predictions, data and their connections as having a reality apart from us and our wants, desires, and beliefs. Making those connections as objective as possible, and impartially following wherever the results lead, is a fundamental part of what makes science what it is. This includes that scientists need to take other perspectives seriously, ranging from the strongest version of an opposing argument to the perspectives held by stakeholders. Importantly, impartiality is neither indifferent nor cold. It is consistent with being intensely curious or motivated to discover the properties of theories and data, precisely because there is something that is beyond oneself to be explored.

Solidarity, or loving-kindness, is the virtue and intention of a benevolent and supportive attitude towards everyone, including oneself. Science progresses only because researchers openly provide knowledge and solutions that others can build upon (Xu et al. 2022). Solidarity relies on recognizing mutual dependence, and thus on humility, mutual support, and collaboration towards common goals.

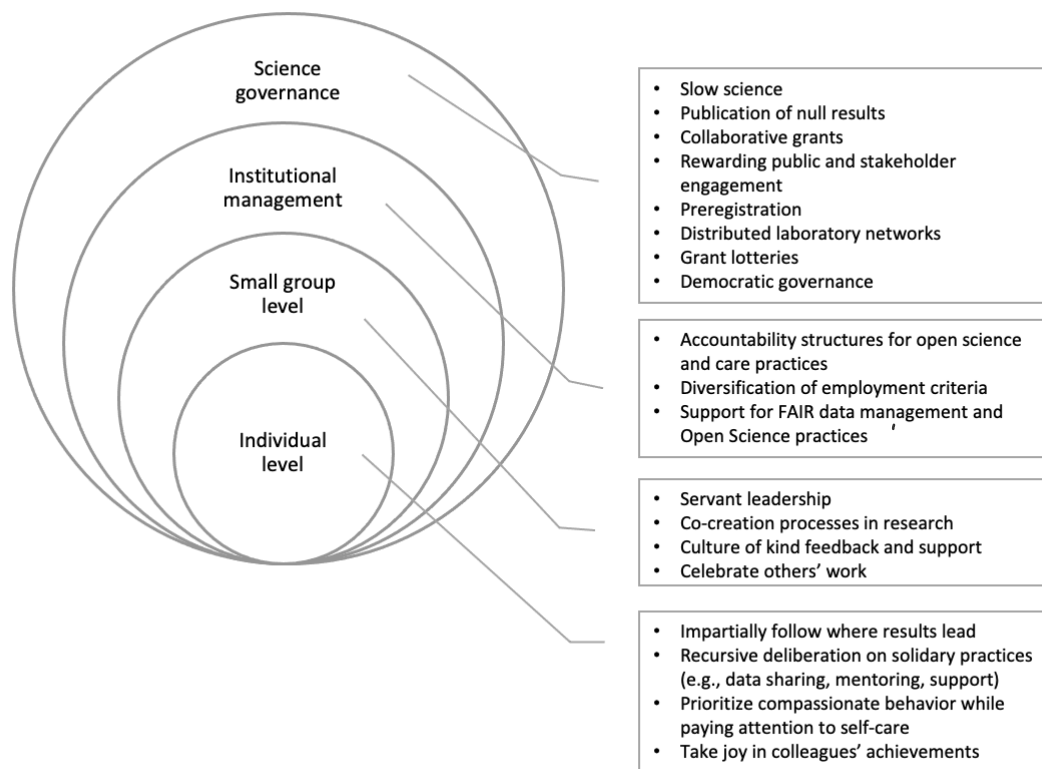
Compassion, going beyond solidarity, is the virtue of holding an empathic concern for the suffering of others, whereby one notices, feels, and acts to ease and transform that suffering and its causes. Science involves problems no one person alone can solve; hence, we should be concerned for the problems of others, scientists and non-scientists alike.

Empathetic joy means to practice taking delight in the achievement of others. It suggests that we can be motivated by solving problems, and by doing so together, rather than by maximizing individualist metrics such as an h-index, realizing it is only because others succeed that we can build on those successes. Cultivating empathetic joy helps academics appreciate and support not only their own but also other perspectives and successes.

3. Initiatives and recommendations for a flourishing science

We introduce the *Four Immeasurables* so that they may serve as qualities to bring about personal and collective flourishing in academia. The embodiment of ethical values ultimately depends on individuals putting them into practice, but also on suitable organizational support for doing so. This is, first, because the impact of individuals' ethical actions depends on the institutional and wider political conditions under which they operate. And second, because although individuals' actions are beneficial for organizations, whether individuals are and feel safe to engage in those depends on conducive structures at the institutional level. In this section we begin to explore what an implementation could look like (Figure 1). We do so separately for the individual and the institutional levels for clarity of exposition, while recognizing their tight interrelations.

Figure 1: The Flourishing Science Framework



Individual and small group levels

The Buddhist tradition considers the four Bramaviharas as virtues that form our 'best home', a 'dwelling place' that is beneficial to our observations and actions. Brahma means the 'supreme' or best, while vihara means dwelling or home. A common recommendation for their practice is that they are not simply abstract values to be acquired, preserved, or 'had', but contextual, situational values to be continuously experienced, sensed, and reflected upon so as to cultivate a ground from which desired things can emerge, in one's own situation and life (Salzberg, 2010). Compassion and kindness, for example, are not merely about saying the right words, just like jazz is not just about playing the right notes (Torrance and Schumann 2019). In the following, we seek to begin a reflection on cultivating the Bramaviharas in the context of science.

Impartiality can be cultivated by establishing an attitude of non-attachment and intellectual humility that impartially considers and questions different ways of seeing and understanding the world, including and beyond one's own. This attitude can be developed, individually and collectively, by impartially focusing on wherever our results and data lead rather than on what we want (or may need) them to be. It can also be cultivated in co-creation processes that involve diverse research contributors, ranging from technicians, junior and senior researchers, to research participants. We have been trying to put this into practice. For example, the work of Schumann and O'Regan (2017) on sensory augmentation derives from an openness to follow results that did not align with their own theory, re-visiting and reaching a fresh perspective on assumptions and theoretical tools. In the work by van Vugt et al. (2020) on monastic debate, Tibetan monks are not only enlisted as participants who perform a predetermined task, but also as active co-researchers whose views are taken into account in designing, executing, and interpreting the research.

On the individual level, one can practice impartiality by reflecting on ideas that promote attention to these qualities, such as remembering that a scientific claim is not yours, and not you. Or that in presenting a claim, or criticizing one, it is advisable to not conflate claims with people. Where possible, say; "not 'Your claim...', nor 'My theory...'" but: 'The claim that is consistent with this argument... but not this...'. This allows one's discussant to consider arguments in themselves without being defensive. Such reflections can cultivate an inner ground from which we can construct an atmosphere of exploring the objective properties of claims in which people are jointly curious about what might be found. In this, we may find ourselves to catch ourselves when we are about to say 'Your theory...', and check ourselves

as we launch into a criticism. A beneficial attitude here can be to approach our practice with a sense of renewal. A sense of recognizing the habitual nature of our conditioned awareness, and a sense for beginning again and again from good intention, but not with too much regret for time lost or having made a mistake. In this way, the Bramaviharas can be practiced distinctively, but they can also be taken as vehicles for each other. Solidarity, for example, is supported by our capacity for equanimity or impartiality (Salzberg, 2014).

Solidarity suggests that science thrives when researchers support and collaborate with each other, sharing ideas, data, and technologies³ rather than keeping them in secret to secure the competitive advantages required for climbing the career ladder. To practice solidarity, we encourage contemplation and deliberation on questions such as: How do we help out colleagues on tasks and duties? To what extent do we share data, experiences, and know-how? How do we support those at lower levels by means of mentoring and sponsoring? (How) do we support others when giving critique, for example after a talk or in a review of their work? Here in particular we encourage reflection on game theorists Rapoport's rules for productive discourse.⁴ In Dennett's reformulation, when composing a critical commentary towards another "(1) You should attempt to re-express your target's position so clearly, vividly, and fairly that your target says, "Thanks, I wish I'd thought of putting it that way." (2): You should list any points of agreement (especially if they are not matters of general or widespread agreement). (3) You should mention anything you have learned from your target. (4) Only then are you permitted to say so much as a word of rebuttal or criticism." Solidarity does not mean that we should give in to everybody and to every demand, but that we have a knowing that our work is part of a bigger fabric of knowledge and ideas. In this light, we can also reflect towards ourselves: what do I truly strive for, and how can I find the support that I need? At the group level, an interesting approach from the management literature in this direction is "servant leadership" (Nathan et al. 2019), in which leaders foremost serve to develop their teams by asking whether its individuals grow and thrive.

Compassion can be practiced by holding an empathic concern towards all, within and outside science. This requires the skill to recognize suffering without getting overwhelmed by it or pushing it away, and to act to ease or alleviate its cause. To enact compassion, we suggest

³ Sharing ideas, data, and technologies can conflict with other values, for instance with study participants' privacy. Openness and solidarity thus need to be weighed against other values in research practice.

⁴ https://rationalwiki.org/wiki/Rapoport%27s_Rules

deliberate contemplation and skillful action towards suffering at all levels, small and large: towards scientists struggling to understand a specific phenomenon or idea, by approaching feedback in talks and reviews as an opportunity to help improve work; towards problems of non-scientists that may be alleviated through scientific results and tools; towards working conditions that do not meet individual needs; towards those who feel they have to employ questionable practices such as p-hacking to be competitive; towards seeing mistakes as an opportunity to learn, support, and to implement work routines that provide collective safeguards (e.g. open data, open materials, pre-registered analyses). To support solidarity with a compassionate way of composing critique, construct the strongest version of your discussant's position, to see the strength of it. Make sure any weakness is a weakness of the strongest position. Then consider how it could be addressed. Compassion, in other words, is a way of creating kind and supportive environments where scientists can flourish in producing and questioning theories with openness and dignity.

Empathetic joy, being happy for someone else's success, is a virtue that can counteract jealousy. This form of joy can, traditionally, be practiced by reflecting on phrases such as "may I be happy, may you be happy", or by reflecting on assumptions such as if revengefulness really makes us strong (Salzberg, 2014). With regards to science, we propose joy can be actively promoted by seeking to understand what it is that others aim to understand, why it is valuable, and what is difficult about it, such that their successes become meaningful. We can also consciously make practical efforts of rejoicing in communal celebrations, especially of small achievements such as solving a problem with one's setup, having an idea for a required control, or the completion of data collection. Published articles or outreach activities, on the other hand, can be publicly displayed in universities and research institutes to generate awareness and appreciation of the work of colleagues.

Science governance and institutional management

Individual actions and group actions are both empowered and constrained by the organizations in which they are embedded. As such, science governance and management structures that allow and promote ethical action are equally critical for the flourishing of science.

Impartiality. To empower impartiality and promote individual researchers' engagement with phenomena in the most unbiased way, the academic system could provide support structures in multiple ways: for example, enable the tenets of "slow science" (Stengers 2018; Frith 2020), reward publication of methodologically rigorous studies regardless of results, and give sufficiently developed projects equal chances for funding. Decelerating the academic work pace gives researchers critical time for impartial reflection so that biases and prejudices can be recognized and overcome, by contemplating and questioning their own and their colleagues' work or the perspectives of stakeholders via public engagement. To reduce bias, researchers could develop measures such as those suggested by Open Science initiatives, including the preregistration of research hypotheses (Dienes 2021) or Bayesian model comparison making assumptions explicit (Dienes 2022a). Researchers and reviewers could be encouraged in job applications and evaluations to reflect on their positionality. Rewarding the publication of null results fosters the study of what is scientifically most interesting rather than easiest to publish. The use of lotteries for grant proposals that pass a minimum standard can enable an impartial distribution of funding and also address equality issues. In a similar way, democratic governance, such as the use of citizens' assemblies, can impartially allow all citizens of an institution to engage in decision making (Dienes 2022b).

Solidarity. To facilitate solidarity via science management, we propose to work on system structures that support, and adequately reward, collaborative achievements. For instance, one could encourage distributed laboratory networks such as the Psychological Science Accelerator⁵ or Registered Reports that promote collaboration, rather than conflict between reviewers, authors, and editors. Similarly, one could move from individual to collaborative grants such as the ERC synergy grant (Tiokhin et al. 2021) and restructure the concept of authorship to reflect such collaborative practice. Scientific prizes could be rewarded not only to individual researchers, celebrating their seemingly independent achievements, but also to those who support them. Furthermore, the bulk of resources in academia are currently in possession of the Global North. Open science practices could allow for more location-independent work that may foster a higher dispersion of expertise around the globe. The Ronin Institute⁶ and the Institute for Globally Distributed Open Research and Education (IGDORE)⁷ are examples of promoting this way of working.

⁵ <https://psysciacc.org/>

⁶ <https://ronininstitute.org/>

⁷ <https://igdore.org/>

Compassion. To promote compassion, the governance structure of institutions should reflect the values to be enacted by their members. Authoritarian control in a purely top-down managerial governance structure is unlikely to promote the mutual respect and concern required for compassionate collaboration on difficult problems, nor does it boost morale. Open democratic processes that engage researchers with real decision-making power would allow the culture of governance to more closely mirror the culture of science itself that we are promoting (see also Brette 2022; Dienes 2022b). As this will take a long time to realize, we suggest that even within existing suboptimal managerial governance structures, compassionate behavior can and should be rewarded. One possibility is to include into researchers' evaluations how they practice sharing (e.g., of data and findings) and how they create a culture of caring (Caron 2020).

Empathetic joy. Joy can be promoted through the alleviation of hyper-competition, which makes it easier for individual researchers to be happy for and to support the successes of others. Sample actions include basing assessments of researchers in richer evaluation criteria than primarily the amount of funding they acquired and the number of yearly publications they achieved, following for example the DORA declaration.⁸ Similarly, as Frith (2020) proposes, the quality of collaborative academic work may increase if the ways in which one takes delight in giving others support becomes relevant for employment. Furthermore, new funding instruments could distribute small grants on a number of research projects rather than investing large grants in single individuals (Fortin and Currie 2013).

4. Conclusion

In short, we support calls for a kinder science by pointing to a close relation between traditional values that make groups work together well and the values of science itself. On individual levels, we have given examples of how one could embody these values in academic work, which we argue can foster impartial (joint) insights and collaboration. We have also given examples of how this could be promoted on organizational levels. Beyond advocating for a mere kinder or more open science, our proposal suggests flourishing as a new framework for a fundamental shift in the activity of knowledge production: embracing collaborative values

⁸ <https://sfdora.org/>

such as the Bramaviharas can transform the organization of science from a competitive and managerial activity towards a collaborative and democratically organized moral practice. By this, we also hope to show that open science can follow from extending values that allow people to get on and flourish in any social setting, impartiality, solidarity, compassion, and joy, values that would preclude the aggressiveness and glee in shaming with which open science is sometimes associated. Applying the Bramaviharas here themselves, we emphasize that we offer these contemplations as prompts, not guidelines, for much-needed reflection and effort towards a greater flourishing of researchers, science, and academia at large.

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