

The Role of Curiosity in Successful Collaboration

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Abstract. In this paper, I focus on the role of curiosity as a key motivating factor in successful collaboration for interdisciplinary research. I argue that curiosity is an important, perhaps essential component of successful collaboration for interdisciplinary teams. I begin by defining curiosity and highlighting the significance of the characteristic motivation of the virtue for successful collaboration. I argue that curiosity initiates, maintains, and coordinates successful collaborative interdisciplinary research. Moreover, if curiosity is a foundational intellectual virtue, then it is not only important but essential for successful collaboration. I draw attention to a specific type of curiosity, namely inquisitiveness, and argue that the defining feature of inquisitiveness – good questioning – renders it a particularly valuable form of curiosity for collaborative projects, including interdisciplinary research. I conclude by deriving some practical recommendations for successful collaboration in interdisciplinary research.

Keywords: Curiosity, Collaboration, Questions, Good Questioning, Intellectual Virtue.

Collaboration is, by its nature, complex. Even the simplest forms of collaborative activity – cooking a meal with a loved one, playing sports with friends – require multiple parties coordinating their time, actions, and resources to achieve a common goal. In these cases, we can expect a kind

of partiality, be it love or friendship say, to play a role in smoothing over some of the inherent complexity of coordination, allowing for successful collaboration. Indeed, more often than not, we do not consciously attend to the effort involved in this kind of collaboration at all.

Collaboration in a workplace setting is different. While many people do enjoy meaningful connections with colleagues, professional relationships are typically secondary to the work itself. Manufacturing employees work together to produce cars, washing machines and so on. Fast food employees work together to get McMuffins into the hands of customers. Doctors and nurses work together to deliver healthcare. In each case, the work is structured by a set of common goals and these, in turn, structure and motivate much of the collaborative effort. Likewise, those working in interdisciplinary research teams are typically brought together by a set of common goals – the research objectives – and these goals structure and motivate the collaborative work.

Take the recent, now famous example of the Oxford/AstraZeneca team who worked together tirelessly in the face of the COVID-19 pandemic to develop a successful vaccine. Professor Sarah Gilbert, lead scientist on the vaccine project said of her team:

I'm incredibly proud of the way the whole team has worked together. We've been lucky to have a lot of really highly motivated people both in the clinical centre and the lab, including many who don't normally work in this area.¹

The source of the Oxford/AstraZeneca team's high levels of motivation is easy to appreciate. In the midst of a global crisis, they were expertly positioned to seek a solution with the potential for positive and life-saving impact on an equally global scale. For many research scientists, a better and more urgent motivation would surely be hard to find. That said, global crises on the scale of the COVID-19 pandemic are thankfully rare and such crises are not the research focus or primary source of motivation for many interdisciplinary research teams. Nonetheless, motivation

¹ <https://www.ukri.org/news-and-events/tackling-the-impact-of-covid-19/vaccines-and-treatments/the-story-behind-the-oxford-astrazeneca-covid-19-vaccine-success/> [Accessed: 12 May 2022].

towards a common goal remains a key element of interdisciplinary research across the sciences and humanities. Think of the recent launch of the James Webb Telescope, which seeks to explore the early universe, made possible by a major international collaboration involving NASA, the European Space Agency, and many others. Motivation towards a common goal, however urgent or exploratory, constitutes an important aspect of successful collaboration.

In this paper, I focus on the role of curiosity as a key motivating factor in successful collaboration for interdisciplinary research. I argue that curiosity is an important, perhaps essential component of successful collaboration for interdisciplinary teams. I begin by defining curiosity and highlighting the significance of the characteristic motivation of the virtue for successful collaboration. I argue that curiosity plays a valuable role in initiating, maintaining, and coordinating successful collaborative interdisciplinary research. Moreover, if curiosity is a foundational intellectual virtue, then it is not only important but essential for successful collaboration. I draw attention to a specific type of curiosity, namely inquisitiveness, and argue that the defining feature of inquisitiveness – good questioning – renders it a particularly valuable form of curiosity for collaborative projects, including interdisciplinary research. I conclude by deriving some practical recommendations for successful collaboration in interdisciplinary research.

1. The role of curious motivation in successful collaboration

In this section, I argue that curiosity is a key motivating factor for successful collaboration in interdisciplinary research. This claim rests on two underlying assumptions. First, that curiosity is a form of motivation. Second, that this form of motivation plays an important role in successful collaboration. In order to appreciate the role of curiosity in successful collaboration, one must justify these underlying assumptions. I will take them in turn, first determining the form of motivation that constitutes curiosity (1.1) and second, establishing the relationship between this form of motivation and collaborative success (1.2 and 1.3).

1.1. Curiosity and epistemic motivation

I have discussed the nature of curiosity in detail elsewhere (Watson 2018a; 2018b). There, as here, I focus on curiosity as an intellectual virtue and thus on characterising and examining *virtuous* curiosity. What, then, is virtuous curiosity. I contend that the virtuously curious person is characteristically motivated to acquire worthwhile epistemic goods that she lacks, or believes that she lacks (Watson 2018a; 2018b). This characterisation includes three key features: 1) a characteristic motivation, 2) a worthwhileness condition, and 3) an ignorance condition. In reverse order, this means that the virtuously curious person must believe that she is missing some kind of knowledge, information or other epistemic good (the ignorance condition), that epistemic good must be valuable, relevant, or significant in some sense (this is broadly what I mean by ‘worthwhile’)², and she must exhibit a characteristic motivation to acquire the good in question. The latter is most salient for present purposes: motivation is a key feature of virtuous curiosity.

This portrayal of virtuous curiosity as involving a characteristic motivation is widely supported in the literature. In her seminal work, Zagzebski (1996) argues that all of the intellectual virtues feature two components: a motivation component and a skill (or success) component. Curiosity is arguably a paradigmatic intellectual virtue and thus it too features a motivation component. Moreover, the motivation component is treated as essential to the characterisation of curiosity by many scholars. Mišćević (2007), for example, describes curiosity as the “mainspring of motivation”, Baehr (2011) categorises curiosity under ‘initial motivation’ (p. 21), and Inan (2012) refers to curiosity as a ‘basic motivation’ for inquiry (p. 1). Virtuous curiosity is commonly connected in the contemporary literature to motivation.

This connection between curiosity and motivation is also widely held in psychology. In his seminal overview of studies in the psychology of curiosity, for example, Loewenstein (1994) writes: “Curiosity has been

² I discuss this condition in more detail in Watson 2019.

consistently recognised as a critical motivation that influences human behaviour in both positive and negative ways” (p. 75). Likewise, in the *Oxford Handbook of Human Motivation*, Silvia (2012) writes “curiosity is an old concept in the study of human motivation” (p. 157). Studies on curiosity in psychology have tested it in a range of different settings and much of this research has been conducted in educational psychology. Moreover, psychologists have suggested divergent ways of defining and measuring curiosity. Nonetheless, few psychologists (none that I am aware of) deny that curiosity bears a fundamental relationship to motivation. Here philosophers and psychologists converge: curiosity is a form of motivation.

Of course, curiosity does not involve any form of motivation. The virtuously curious person is not simply ‘motivated’, rather, according to the characterisation above, she is *motivated to* acquire worthwhile epistemic goods that she lacks, or believes that she lacks. As such, the motivation component of virtuous curiosity can be characterised as an *epistemic motivation*. By this, I mean that it is a motivation concerning epistemic goods such as information, knowledge, and understanding. Insofar as curiosity is characterised as an intellectual virtue this should be broadly uncontentious. The intellectual virtues are defined in terms of their concern with or orientation towards epistemic goods. In the case of curiosity, the concern is with acquiring worthwhile epistemic goods. Thus, virtuous curiosity is (in part) an epistemic motivation.

1.2. Epistemic motivation and epistemic success

What is the relationship between epistemic motivation and successful interdisciplinary collaboration. To begin, it will be instructive to look at the relationship between epistemic motivation and epistemic success in general. I will then argue that the distinctive epistemic motivation of curiosity initiates, maintains, and coordinates the collaborative activities of interdisciplinary research teams.

The claim that motivation plays a role in success is hardly new. The most extensive research on this topic has been conducted in educational settings, where educational theorists and psychologists have been examining the relationship between student motivation and educational ob-

jectives such as academic achievement for several decades (Maehr and Meyer 1997; Covington 2000a; Seaton et al 2014; Sikhwari 2014). While results differ with respect to age-groups, subjects, and settings, the wide-ranging research in this area points to the significance of the relationship. As Maehr and Meyer (1997) put it in the late 90s: “One thing that is most certain about the past as well as the future is the importance of motivation in the practice of education” (p. 372).

Work in this area often highlights different types and/or sources of motivation impacting the degree to which motivation is correlated with academic achievement. Perhaps the most coarse-grained of these distinctions is extrinsic and intrinsic motivation. Think of students motivated by good grades (extrinsic) versus students motivated by genuine interest in the topic (intrinsic). While this distinction is perhaps overly simplistic (Reiss 2012), it nonetheless highlights an important construct in the study of motivation indicating the sense in which motivation can be tied to enjoyment or interest in an activity *for its own sake* (Covington, 2000b; Deci and Ryan, 2000). Most notably, research on intrinsic motivation has found a generally positive relationship between this type of motivation and academic achievement (Froiland et al 2012; Augustyniak 2016; Simons et al 2020). Augustyniak et al (2016) write:

intrinsic motivation is associated with high levels of effort and task performance (11). Students with greater levels of intrinsic motivation demonstrate strong conceptual learning, improved memory, and high overall achievement in school (7). These students are more likely to experience a state of deep task immersion and peak performance (14, 15). Studies have also shown that students with higher intrinsic motivation are also more persistent (9, 17). In fact, intrinsic motivation is a powerful factor in performance, persistence to learn, and productivity (8). (Augustyniak et al, 2016, p. 465)

Research on the role of intrinsic motivation in academic achievement thus supports what I take to be a relatively intuitive notion: that being motivated to learn something for its own sake is a distinctive and particularly powerful learning mechanism.

It is also uncontentious to suggest that this mechanism shares much in common with curiosity. Indeed, Augustyniak et al (2016) refer to intrinsic motivation in precisely these terms:

Although students are often moved by external rewards such as grades or evaluations, students are motivated mainly from within by interests and curiosity. These intrinsic motivations can sustain passions, creativity, and efforts toward learning. (Augustyniak et al, 2016, p. 466)

This alignment between curiosity and intrinsic motivation is found in other studies too. Pluck and Johnson (2011), for example, write: “Curiosity is an aspect of intrinsic motivation that has great potential to enhance student learning” (p. 24). Echoing this, Markey and Lowenstein (2014), comment: “Curiosity... has long been recognized as a crucial motivation driving educational attainment” (abstract).

Curiosity is naturally aligned to the notion of intrinsic motivation in the context of educational psychology. This adds a further nuance to the characterisation of virtuous curiosity in terms of motivation. Curiosity is a form of *intrinsic epistemic motivation*. As an intellectual virtue, this is the characteristic intrinsic motivation to acquire worthwhile epistemic goods that are missing. Moreover, and perhaps unsurprisingly, this intrinsic epistemic motivation is found to align with educational objectives such as learning and academic achievement. Putting this in broader terms, the intrinsic epistemic motivation of curiosity is aligned with epistemic success.

1.3. Intrinsic epistemic motivation and collaborative epistemic success

The conclusion that curiosity is aligned with epistemic success is significant for the broader argument that curiosity is a key motivating factor for successful collaboration in interdisciplinary research. This is because measures of success for interdisciplinary research are typically, if not always, defined partly in terms of epistemic objectives, such as broader knowledge of X or better understanding of Y. The Oxford/AstraZeneca team needed to *know* which antigen would invoke an immune response

and *understand* the correct dosage level, in order to develop a successful vaccine. Epistemic objectives form an essential part of even the most urgent and practical collaborative research tasks. If the intrinsic epistemic motivation of curiosity is aligned with epistemic objectives such as these, then it is something we stand to benefit from in a wide range of epistemic endeavours, including collaborative interdisciplinary research.

Beyond this basic inference, there are several further reasons why virtuous curiosity should be viewed as a valuable feature of interdisciplinary research. Specifically, the intrinsic epistemic motivation of curiosity *initiates*, *maintains*, and *coordinates* the collaborative activities of interdisciplinary teams. The first of these is not hard to appreciate. Curiosity involves an intrinsic motivation to acquire worthwhile epistemic goods that are missing. Acquiring these goods – broader knowledge of X, better understanding of Y – is more or less the *raison d'être* of interdisciplinary (and other) research. As such, being intrinsically motivated to acquire these goods is a powerful initiating factor. That is not to say that it is the only thing that gets interdisciplinary research off the ground, or that it is sufficient for doing so. The Oxford/AstraZeneca team's efforts to develop a vaccine for COVID-19 were clearly initiated by the global crisis. The collaborative efforts behind the launch of the James Webb telescope were likely initiated by a combination of factors, including many practical scientific goals. Nonetheless, it is hard to deny that the intrinsic epistemic motivation of curiosity can and does initiate interdisciplinary research.

Curiosity also helps to maintain interdisciplinary research. To see this, return to the distinction between intrinsic and extrinsic motivation. In educational psychology, intrinsic motivation has been found to contribute to academic achievement along a number of lines including, as noted above, 'strong conceptual learning', 'improved memory', 'deep task immersion' and 'persistence' (Augustyniak et al, 2016, p. 465). By contrast, the relationship between extrinsic motivating factors, such as good grades or teacher praise, and academic achievement appears to be weaker or at least more complex (Covington 2000b).

Covington (2000b), for example, highlights the so-called 'overjustification effect', first identified by Lepper, Greene and Nisbett (1973).

This effect describes situations in which an individual's intrinsic motivation is apparently undermined by the offer of external reward. Covington (2000b) writes, "if a teacher tries to encourage intrinsic values directly, say, by praising students for pursuing a hobby, then, paradoxically, these interests may actually be discouraged" (p. 23). Likewise, Covington (1998, 2000b) studies the effects of competition on intrinsic motivation, arguing that when distribution is limited, competitive rewards such as good grades and gold stars can ultimately have a negative impact on students' overall motivation and achievement: "students are aroused for the wrong reasons—to win over others and to avoid losing—and these reasons eventually lead to failure and resentment" (Covington, 2000b, p. 23). Perhaps most significantly, "there is the prospect that once these rewards are no longer available, students will show little or no inclination to continue in their studies" (*ibid*). Extrinsic motivation, in the form of external rewards, can seemingly have a destabilising effect on both motivation and success.

The relationship between intrinsic and extrinsic motivation is admittedly both complex and multifaceted. As Covington (2000b) is keen to emphasise, "the effects of tangible payoffs on intrinsic processes are far from simple" (p. 24). Sometimes these effects appear to be positive. Nonetheless, the point remains that intrinsic motivation is consistently aligned with academic success and 'persistence to learn' (Augustyniak et al, 2016, p. 465). Most of the research on this topic in educational psychology has naturally been conducted in school or university classrooms. However, the overall picture can surely be applied beyond these educational contexts to epistemic endeavours more generally, including interdisciplinary research. Swap teacher praise for academic reputation, good grades for prestigious publications, and gold stars for steps on the salary ladder, and it is not difficult to conceive of a similarly destabilising influence at work within the academy.

Consider a research team in which the members are motivated exclusively by money, promotion, or reputation. These are no doubt strong (and not necessarily unwarranted) motivating factors. Nonetheless, a team motivated exclusively by these external rewards and lacking any intrinsic

sic epistemic motivation, namely, curiosity, may have their collective efforts undermined by the destabilising effects of extrinsic motivation in the form of external rewards. Again, perhaps most significantly, there is the prospect that once external rewards are no longer available – perhaps the promotion request has been denied or the pay raise granted – the motivation to continue pursuing a collaborative research project dissipates. Without curiosity, research teams lack the intrinsic motivating factor that helps to maintain collaboration in the absence of external rewards.

Moreover, virtuous curiosity (as with all the intellectual virtues) involves a *characteristic* motivation (Zagzebski 1996). This is an essential feature of intellectual virtue, as the virtues are regarded as aspects of a person's character, rather than transitory behaviours; virtues are deep and stable dispositions. As such, virtuous curiosity does not consist in a mere fleeting interest in a topic; it is sustained and stable over time. This deep and stable dimension of virtuous curiosity can be seen to play a role in not only initiating inquiry into a particular topic but in sustaining a researcher's interest in that topic over time. Although not typically discussed in terms of virtue in the psychological literature, this is one way of understanding the finding in educational psychology that curiosity is aligned with improved persistence to learn (Grant 2008; Augustyniak et al, 2016; Simons 2020). Again, it would be surprising if the effects of virtuous curiosity in this regard were limited to the classroom. Curiosity helps to maintain interdisciplinary research.

Moreover, it seems plausible that the intrinsic epistemic motivation of curiosity not only initiates and maintains interdisciplinary research but also helps to actively coordinate collaborative efforts. This is because, as noted, virtuous curiosity involves motivation towards some worthwhile epistemic end such as broader knowledge of X or better understanding of Y. When shared across different members of a research team, this goal orientation is significant. If team members share the epistemic goal of, say, understanding what happened in the aftermath of the Big Bang, as in the case of the James Webb Telescope, their efforts will be naturally coordinated by achieving that end. Just as the efforts of a football team are coordinated by the goal of winning the match. If, on the other hand, the

teams behind the James Webb Telescope are divided with respect to their intrinsic epistemic motivations – say half are motivated by understanding conditions in the early universe and half by finding extra-terrestrial life – their collaborative efforts will be naturally aligned only insofar as the means for achieving these different epistemic ends overlap. That is not to say that they cannot coordinate via good communication, clear agreements, and so on. Nonetheless, shared curiosity naturally aligns and coordinates the intellectual activities of a research team.

This is perhaps most significant in the context of interdisciplinary research where researchers may not be as naturally aligned as in teams comprised of just one discipline. Researchers coming together across the sciences and humanities will inevitably bring different priorities, methods, vocabulary and conceptual frameworks with them. This diversity is to be celebrated but interdisciplinary researchers must nonetheless be unified in some way, beyond simply listing the same research project on their CVs, in order to achieve genuine collaborative success. If they are not working in the same way – using shared methods, equipment etc. – then they can still be brought together by working towards the same goals. Shared epistemic goals are arguably integral to successful collaboration across disciplinary, often methodological, boundaries. These goals can be found in shared curiosity. Curiosity coordinates interdisciplinary research.

To summarise, just as in classrooms, the intrinsic epistemic motivation of curiosity leads to epistemic success in interdisciplinary research. In particular, shared curiosity can and does play an important role in initiating, maintaining, and coordinating the collaborative activities of interdisciplinary research teams.

1.4. Curious motivation is important, *perhaps essential*, to successful collaboration

I have argued that curiosity is a key motivating factor for successful collaboration in interdisciplinary research. Before moving on, it is worth briefly noting a somewhat stronger claim regarding the role of curiosity in successful collaboration, namely that it is not only important but es-

sential. This stronger claim arises from consideration of the unique position that curiosity arguably occupies among the intellectual virtues, as a *foundational* intellectual virtue.

Return to the treatment of curiosity by virtue epistemologists who identify it as a ‘fundamental’ or ‘basic’ motivating intellectual virtue. For Mišćević (2007), curiosity is the “mainspring of motivation”, for Baehr (2011) it falls under ‘initial motivation’ (p. 21), and for Inan (2012) curiosity is a ‘basic motivation’ for inquiry (p. 1). Virtuous curiosity is defined by these scholars as, in some sense, ‘basic’ or ‘fundamental’ to the initiation of intellectually virtuous inquiry. It is not a huge leap from here to suggest that curiosity can thereby be regarded as a foundational intellectual virtue. By foundational, I mean something like a cardinal or unifying intellectual virtue. The intellectual virtue that gets all intellectually virtuous inquiry off the ground, so to speak, and thus serves as a foundation for the exercise of other intellectual virtues.

If curiosity is not merely a motivating intellectual virtue, but a foundational intellectual virtue, then the case in support of the role that curiosity plays in collaborative interdisciplinary research is even stronger. Insofar as successful interdisciplinary research involves intellectually virtuous inquiry, curiosity, taken as a foundational intellectual virtue, would be not only important but essential to successful interdisciplinary collaboration. Ultimately, this is a stronger claim than the one I am defending in this paper but it is nonetheless worth noting for the simple fact that, if true, it would make virtuous curiosity a requirement for interdisciplinary research, placing it at the heart of collaborative interdisciplinary success.

2. The role of inquisitive skill in successful collaboration

Curiosity is a key motivating factor for successful collaboration in interdisciplinary research. It plays an important role in initiating, maintaining, and coordinating the activities of interdisciplinary research teams. The case in support of this has primarily focused on the intrinsic epistemic motivation of curiosity, given that curiosity is regarded by both

philosophers and psychologists as, in some sense, fundamentally motivational. The case can, however, be further strengthened by looking at a particular form of curiosity, namely inquisitiveness, and the defining *skill* associated with inquisitiveness, namely good questioning. I argue that this skill renders inquisitiveness a particularly valuable form of curiosity for successful interdisciplinary research.

Before proceeding, another definition is necessary. I have posited that the virtuously curious person is characteristically motivated to acquire worthwhile epistemic goods that she lacks, or believes that she lacks. Elsewhere, I have also characterised and discussed the closely related (but not synonymous) virtue of inquisitiveness, positing that the virtuously inquisitive person is characteristically motivated and able to engage sincerely in good questioning (Watson 2015; 2016). As such, I argue, virtuous inquisitiveness is a restricted form of curiosity. In other words, it is a particular variety or type of virtuous curiosity whereby the agent engages in a specific activity, namely, good questioning (Watson 2018b).

Good questioning is the defining skill of virtuous inquisitiveness. If a person does not engage in questioning she may still be virtuously curious in other ways but cannot be described as inquisitive (virtuously or otherwise). Characteristically engaging sincerely in good questioning is a restricted form of virtuous curiosity. It is a restricted way of manifesting the characteristic intrinsic motivation to acquire worthwhile epistemic goods that one lacks or believes that one lacks. Virtuous inquisitiveness is virtuous curiosity manifested as good questioning.

2.1. The skill of good questioning and collaborative success

Why is inquisitiveness a particularly valuable form of curiosity for successful interdisciplinary collaboration. I have discussed the motivation component of curiosity in some detail. However, motivation is not all there is to intellectual virtue. According to Zagzebski's (1996) seminal account, each virtue has both a motivation and a skill (or success) component. Thus, we can also look at the role that the skill component plays in collaborative interdisciplinary research. The skill component of virtuous inquisitiveness is good questioning.

Good questioning is a skill insofar as it involves a degree of judgement beyond merely uttering an interrogative sentence or seeking information at random. In particular, when forming and asking a question, the good questioner must judge *what* to ask, *when*, *where*, and *who* to ask, and *how* to ask (Watson 2019). This means that questioning can go awry in a number of different ways. The perfectly formed question that fails to get at the right information is no good. Likewise, the questioner seeking the right information but asking the wrong person, at the wrong time, in the wrong language, is unlikely to succeed. Good questioning is a complex and often unrecognised or underappreciated skill. Again, it is the defining skill of virtuous inquisitiveness.

In interdisciplinary research, good questioning plays a number of important roles. Most obvious among these is in setting the epistemic goals of a research project from the outset, in the form of research questions. Most researchers, regardless of discipline, recognise the significance of good research questions. Many have also experienced the pitfalls of bad ones. Poorly formed research questions can lead to wasted effort, as well as being a source of intellectual frustration and confusion. Worse, research questions that target the wrong epistemic goals, however well formed, will inevitably lead to wasted time and resources, and missed opportunities. All of these hazards are likely to be exacerbated in interdisciplinary teams, where communication across disciplinary languages can be especially challenging. Good research questions in interdisciplinary teams will be those that target the shared epistemic goals of the research in a way that all members of the team can clearly understand and articulate across disciplinary boundaries. They are integral to collaborative success in interdisciplinary research.

Beyond this obvious role of good research questions, the skill of good questioning more generally is integral to sharing knowledge and building common understanding across disciplines. Questions, after all, are one of the key mechanisms by which we learn. Learning as a team is an important feature of interdisciplinary research that can transform it from being merely the work of researchers in multiple disciplines on one project to a genuinely collaborative effort drawing on different disciplinary ap-

proaches and bodies of knowledge. One of the most valuable and attractive features of interdisciplinary research is the ability to draw on a wide range of disciplinary expertise in service of one or two shared research objectives. Good questioning between researchers in interdisciplinary teams can bring the most relevant expertise to the fore and reveal connections, blindspots, objections or assumptions that would otherwise remain hidden or unexplored.

In addition, good questioning is also an important aspect of successful communication. It allows individuals to understand each other and establish common ground by exchanging information, however trivial or profound. I learn your name by asking what your name is. You learn about my research by asking about it. We learn what motivates and interests each other by engaging in conversation, constantly shaped and reshaped by our questions. Just try having a conversation without questions and you will appreciate their understated significance almost immediately. Again, this is no less (and perhaps even more) significant in interdisciplinary research teams where common ground is likely to be less overt than in single disciplinary teams. Good questioning can help to build relationships and open up communication in valuable ways, leading to more natural alignment between researchers and valuable micro-collaborations.

Indeed, questioning is in many respects a key form of everyday collaboration between people in all different settings and circumstances. Asking and answering questions is a fundamentally social practice (Watson 2022) and, just like cooking a meal with a loved one or playing sports with friends, it often requires multiple parties coordinating their time and effort to achieve a common goal. This is as true and significant in interdisciplinary teams as anywhere. Hence, good questioning is an important feature of collaborative success. In virtuous inquisitiveness, then, we not only have the intrinsic epistemic motivation of virtuous curiosity, but also the skill of good questioning. This combination makes inquisitiveness a particularly valuable form of curiosity for collaborative success in interdisciplinary research.

3. Practical recommendations for interdisciplinary research

I have argued that curiosity is a key motivating factor in successful collaboration for interdisciplinary research and that inquisitiveness is a particularly valuable form of curiosity in this regard, given the defining skill of good questioning. These conclusions have been derived, primarily, from philosophical analysis of the virtues and their relationship to successful collaboration. As such, the argument has been conceptual in nature. As with much good conceptual argumentation one can also derive practical recommendations from these conclusions.

In particular, it seems likely that collaboration in interdisciplinary research teams can go awry from the very beginning when teams fail to establish a shared understanding of the primary research questions. This may be because researchers themselves do not spend enough time jointly agreeing the research questions at the outset, or (perhaps more typically) because Principal and Co-Investigators fail to take the time and effort required to clearly articulate the research questions for themselves. Philosophers, theologians, psychologists, scientists – they all have different disciplinary languages, approaches, bodies of knowledge and so on. Speaking across these and learning to understand each other is a key challenge facing any interdisciplinary team. Ultimately, this is a broad communicative task but arguably the most important part of it is ensuring that researchers, regardless of discipline understand and are motivated by the primary research questions from the outset. Afterall, if researchers are not answering the same questions, then they are not truly engaged in collaborative research, successful or otherwise.

As such, at least one clear practical recommendation can be derived from the above discussion. Time, effort, and resources should be dedicated at the start, and throughout, any interdisciplinary research project, to the formulation of good research questions. These will be questions that all members of an interdisciplinary research team, including Principal and Co-Investigators, can clearly understand and articulate, and which they are jointly and, ideally, intrinsically motivated by shared curiosity, to answer.

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