



# Inquiry

An Interdisciplinary Journal of Philosophy

ISSN: 0020-174X (Print) 1502-3923 (Online) Journal homepage: <https://www.tandfonline.com/loi/sinq20>

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To cite this article: Henrike Moll & Andrea Kern (2020): Learning from another, Inquiry, DOI: [10.1080/0020174X.2020.1731593](https://doi.org/10.1080/0020174X.2020.1731593)

To link to this article: <https://doi.org/10.1080/0020174X.2020.1731593>



Published online: 23 Feb 2020.



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## Learning from another

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### ABSTRACT

Learning is a capacity whereby an individual undergoes a distinctive kind of change: a change of what she is able to think or do, a change either in the scope or quality of her capacities. It is widely held that the capacity for learning takes a unique shape in humans and differs from how non-human animals learn. This view is popular among philosophers, psychologists, and anthropologists. In spite of the wide agreement about its uniqueness, it remains unclear what exactly it is about human learning that makes it special. In this article, we take an Aristotelian approach and argue that the uniqueness of human learning can only be understood against the background of the human form of life. This form of life is characterized by a self-conscious relation between the form of life and its bearers. Learning is the form of the development from immature to mature bearers of the human form of life and carries the following three characteristics: It is second-personal, its content is general, and the learner's relation to the knowledge or the capacities she acquires is reflective.

**ARTICLE HISTORY** Received 8 June 2019; Accepted 12 October 2019

**KEYWORDS** Social learning; human form of life; general knowledge; second person

### I. Is human learning unique?

Learning is a capacity whereby an individual undergoes a distinctive kind of change: a change of the scope of her knowledge about how things are in the world or of her capacity to bring about a particular kind of change in the world. It is widely held that the capacity for learning takes a unique shape in humans and differs from any analogous capacity we find in non-humans. This view is popular among philosophers, psychologists, and anthropologists, and some scholars even regard the human capacity for learning as the *differentia specifica* between humans and non-human animals (e.g. Staats 2012; Csibra & Gergely, 2011). In spite of the wide agreement about the uniqueness

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of human learning, it remains unclear what exactly it is about human learning that makes it special.

Various theoretical accounts have offered definitions of the uniqueness of learning in humans. These can be broadly clustered into three families. (1) **Conceptualism** is the position according to which the uniqueness of the human capacity for learning consists in the *form of its content*. Whatever humans learn is shaped by their understanding of the concept of what they learn, and this understanding guides the exercise of the capacity that is thereby acquired. Whereas animals take up particular ('token') actions that they reproduce under the same circumstances in which they were observed, humans learn the principles of these actions. What they, in contrast to animals, acquire through learning is something general that can be actualized under a wide variety of circumstances and situations. In philosophy, this view has been mostly defended by authors from the Kantian tradition such as Jonathan Bennett (1989) and John McDowell (1996); in psychology, this idea can be found in Csibra and Gergely's (2009, 2011) 'natural pedagogy'. (2) **Reflectivism** claims that the uniqueness of the human capacity for learning consists not in the form of its content, but in the subject's *relation to this content*. While animals learn from others without being able to reflect on their knowledge states, humans can reflect on their epistemic states and on how they know what they know. From a philosophical perspective, such a view can be derived from Ernest Sosa's (2001, 2009) distinction between 'animal knowledge' and 'reflective knowledge'. From a cognitive science perspective, Cecilia Heyes (2018) argues that only humans can guide their cognitive advancement by reflecting and adopting metacognitive learning strategies. (3) **Intersubjectivism** is the position stating that the human capacity for learning is unique because its content has a peculiar source: The source of its content is another human being; learning is essentially *intersubjective*. Prominent psychological accounts from which such a position can be derived are those of Andrew Meltzoff (2007a, 2007b) and Peter Hobson (2004), who argue that humans identify with others and thus strive to be and act like them. We might say that humans learn 'through' the other rather than simply learning in virtue of others whose behavior provides occasions for learning (see Tomasello, Kruger, and Ratner 1993). Recent work in philosophy of testimony and education, e.g., by Jeremy Wanderer (2013a, 2013b) and Will Small (2014) also suggests that humans learn by entering a special 'second-personal' relationship with another through whom the child gains access to the world. However, unlike their psychological counterparts, these

philosophical accounts accentuate not just the likeness between learner and model or teacher, but the asymmetry or epistemic imbalance that separates them. Children learn because they form a bipolar nexus with another whom they recognize as an epistemic authority.

What these three different families of accounts have in common is the idea that the uniqueness of the human capacity for learning is explained in terms of some *further special capacity* – conceptuality, reflectivity, or intersubjectivity – that humans possess independently of their capacity for learning. It is in virtue of this further capacity that human learning, or at least certain instances of it, are said to obtain a special character. We will call such accounts of human learning *additive* accounts because they construe human learning as a compound of two capacities that are thought to be independently intelligible: a capacity for learning that humans and non-human animals share, plus a human-unique ‘capacity x’.

We will argue that any additive account is confronted with a problem of explanation that it cannot solve; call this the explanation problem. Additive accounts cannot explain the further capacity they invoke in a manner that entitles them to claim that the presence of this capacity in a human individual is that which explains the distinctive character of human learning. It cannot be explained by human learning because human learning is supposed to be explained by it, not vice versa.

In this article, we point to a possible way out of the explanation problem in a way that neither denies that human learning is unique nor declares that it does not, in fact, have the features—conceptuality, intersubjectivity, and reflectivity – identified by the three mentioned accounts. Instead, we suggest that human learning and its characteristics need to be thought of in alternative terms. We will argue that humans’ unparalleled capacity for learning does not stem from some further capacity, but from a logical form that not only explains why human learning indeed has the three mentioned characteristics, but also why they are central to human learning. The logical form that describes human life is that of self-consciousness. In humans, the capacity for learning is intrinsically self-conscious because humans embody a self-conscious form of life.

The self-consciousness of the human form of life, it will be argued, logically entails the concept of learning as that which specifies the process by which individuals who instance this form of life become its mature members. This will enable us to see not only that the above three characteristics are essential features of the human capacity for learning, but also that they form an inner unity of characteristics that has a single explanation. Our suggestion is to reflect on the notion of human life as an

*intrinsically self-conscious life* which will enable us to acknowledge the three characteristics in a manner that not only shows that there is no ground for preferring one over the others, but also that these characteristics cannot be understood in isolation from each other.

## **II. Three accounts of human learning and their common problem**

Before introducing the three families of accounts of human learning that, as we shall try to show, share the problem of failing to explain the uniqueness of its form, it should be noted that the authors associated with these accounts may not fully endorse the account as we represent it. For example, they might not refer to the characteristic they investigate as a *capacity*, or they might not explicitly take a stance in the anthropological debate about its human-uniqueness. Our representations of these accounts are to be seen as ideal-typical positions that are suggested by the theses that the authors put forward.

### **II.1. Conceptuality**

According to conceptualism the difference between human and animal learning resides in the fact that humans can acquire general knowledge, whereas animals only ever learn about particulars. A representative version of this position can be found in Jonathan Bennett's (1989) conceptual analysis of rationality. Taking as point of departure the waggle dance with which bees inform each other about the location of nectar, Bennett asks what would need to be added to such intelligent information exchange for us to regard it as rational. In his view, the answer, and thus the difference between animal intelligence and human rationality, lies in the capacity to exchange universally valid or general knowledge. Bees and other animals can only ever inform each other of the present and the particular. A bee might learn that there is nectar 'over there, right now', just like a vervet monkey might learn that a leopard is approaching that very moment. However, neither these nor any other animal can exchange that, e.g. food is usually found 2 miles north-west of the hive, or that leopards tend to attack larger rather than smaller monkeys. Humans, by contrast, can acquire general and objective knowledge about the world from others via universal statements that hold true atemporally.

Something similar is suggested by Csibra and Gergely's (2009, 2011) 'natural pedagogy'. The major claim of this account is that an evolutionary

adaptation in the hominin lineage about 2.5 MYA led to the emergence of a communication system whereby adults teach their offspring general knowledge, that is, knowledge that pertains to object kinds or action types, rather than to particular exemplars or instances. To initiate learning, adults signal their pedagogical intent with specific ostensive cues including eye-contact, raised eye brows, child-directed (high-pitch) speech, calling the child by name, etc. This ostensive-communicative framing of the message is believed to be necessary because human practices are often 'teleologically' or 'causally opaque' and so the infant cannot grasp what another is doing and why merely by observation. Signaling one's teaching intent is required to make these practices accessible to infants, who are evolutionarily endowed with specialized cognitive mechanisms to interpret these signals as announcing general information. What the ostensibly framed utterances and gestures express is knowledge not about, say, what Lisa or Sebastian think about snakes or the taste of mushrooms, but what the wider cultural community or the science knows to be true of snakes or mushrooms. In the authors' words:

Human communication makes it possible to efficiently convey knowledge with opaque content to others in a single act of demonstration not only because the recipient is prepared to recognize such actions as communicative demonstrations, but also because the addressee has the default expectation that the content of the demonstration represents shared cultural knowledge and is generalizable along some relevant dimension to other objects, other occasions, or other individuals. (Csibra and Gergely 2011, 1150).

Like Bennett (1989), Csibra and Gergely believe that what animals learn from another is necessarily restricted to the present and the particular. The alarm calls of vervet monkeys 'might indicate the current presence of danger but they cannot communicate, for example "aerial predators usually come during daytime"' (2011, 1150). Humans, on the other hand, are evolutionarily adapted to acquire general knowledge, even in early childhood. That young children indeed have the capacity for general knowledge acquisition has been experimentally confirmed. One example comes from a study on problem-solving in which 4-year-olds had to retrieve an out-of-reach object from a narrow tube by using water (Moll 2018). At baseline, children at this age did not know how to solve the problem, and even when an adult told them about an instance in which an individual successfully used water for a similar mechanical problem, they still mostly failed. However, if the adult shared with them the general knowledge that 'Water can be used as a tool', most 4-year-olds had the insight to pour water into the tube to make the object

float atop. The upshot is that humans, from very early on in their lives, have a unique capacity to learn general and objective knowledge about the world – whether this is thanks to their facility with language, as Bennett (1989) posits, or whether this is independent of and prior to language, as Csibra and Gergely (2009, 2011) claim.

## ***II.2. Intersubjectivity***

A second family of accounts maintains that what marks off human learning is a special capacity for engaging in interpersonal relationships. One influential account of intersubjectivity is Andrew Meltzoff's (2007a, 2007b) 'like me hypothesis', according to which humans from birth intuitively grasp that self and other are alike. Even as newborns, so Meltzoff, children recognize that they and other humans share the same nature and are beings of the same kind. When looking at another, the infant understands 'Here is something like me' (2007a, 27). The empirical basis for the like-me framework are Meltzoff's famous findings of neonatal imitation: within hours or days after birth, newborns re-enact others' facial expressions, such as tongue protrusion or mouth opening (Meltzoff and Moore 1977, 1983, 1989). The innate grasp of others as being like me shapes children's cognitive development going forward, including their learning about others' goal-directed actions, their intentions, and perspectives (Meltzoff and Brooks 2001). Understanding that others are like me and, vice versa, that I am like others, is the bedrock of human social learning.

An account similar to Meltzoff's has been put forth by autism scholar Peter Hobson. In his definition of what is impaired in autism, Hobson (2004) discusses normal-developing infants' natural tendency to want to be like others and adopt their stance to the world. Children identify with others and take on their bodily as well as psychological orientations and attitudes.

Identifying with someone means recognizing the someone as a person with characteristics that one can make one's own – characteristics that come to enrich one's self. [...] A child is learning through repeated shifts into the roles of others, doing things and seeing things and adopting attitudes towards the world as 'they' do. (Hobson 2004, 223)

What Hobson has in mind can be illustrated, for example, by infants' social referencing behavior. Such behavior can be observed when infants, upon encountering an ambivalent object or situation (such as the 'visual cliff' that is often used in experiments trying to induce social referencing) turn to an adult as if to request advice and then shape their behavior in

accord with the adult's reaction. Humans, we might say, learn 'through' the other because they identify with others whose stance toward the world they make their own.

Philosophers of testimony and education have also noted that the 'way knowledge gets around' (Moran, 2005, p. 2) among humans is in the context of a distinctive interpersonal relationship (McMyler 2011; Moran, 2005, 2018; Rödl 2016; Small 2014; Wanderer 2013a, 2013b). In this 'transactional relationship' (Wanderer 2013b), the teacher offers her knowledge to the student, but her address only culminates in a successful act of teaching if it leads to an 'uptake' – in the form of learning or understanding – by the addressee. Learning is, on this account, an 'act for two' in the sense that it requires a collaborative exercise on the part of both teacher and learner who address one another as you. Learning, we might say, is the capacity to enter a second-personal or bipolar nexus with another whose word and epistemic authority one trusts.

The psychological versions of the intersubjectivity account by Meltzoff and Hobson bring out only the child's recognition of the likeness or even identity of self and other, but neglect the need to acknowledge a perhaps equally important difference: the asymmetry in epistemic authority between self and other, without which any learning remains mysterious. At least some of the philosophical versions of the intersubjectivity account take better notice of this epistemic imbalance which the act of teaching strives to level. Wanderer (2013b) writes

One could treat learning from telling [...] as involving the recognition of the mark of authority of another, since the one influenced by 'an authority' arrives at a judgment by reflecting solely on the epistemic standing of the source of the information rather than on the standing of the information itself. This recognition, however, does not involve the surrender of private judgment but a recognition that one's own epistemic needs extend beyond one's own limited epistemic resources in a manner that necessitates dependence on the epistemic resources of another. (105)

To sum up the thesis that is central to this family of accounts, one could say that teacher and learner form a distinctive second-personal relationship with the shared goal to transmit knowledge that one of them already possesses but the other lacks.

### ***II.3. Reflectivity***

Finally, the third family of accounts of what makes human learning unique postulates that humans have the capacity to reflect on their epistemic



states. In philosophy this view is, among others, defended by Ernest Sosa who distinguishes two kinds of knowledge: animal and reflective. Unlike animal knowledge, reflective knowledge requires ‘that the knower have an epistemic perspective on his belief, a perspective from which he endorses the source of that belief, from which he can see that source as reliably truth conducive’. (Sosa 2009, 135). Gaining reflective knowledge is an epistemic achievement that humans aspire to in pursuit of the truth. As Sosa (2009, 142) writes ‘Reflective knowledge acquisition is [...] like attaining a prized objective guided by one’s own intelligence, information, and deliberation’. Reflective knowledge is more valuable and a level above animal knowledge because it entails an understanding of why things are as they are and how one knows what one knows. By shining the light of reflection on her beliefs, the reflective knower can scrutinize and evaluate the sources of her beliefs. In line with Sosa’s (2009) view that reflective knowledge entails knowing the sources of one’s beliefs, one might ask when children learn how they come to know what they know. Developmental studies suggest a relatively late onset of this kind of reflective capacity. For example, children from around age 4 onwards can determine whether they know something on the basis of visual or tactile perception or hear-say (O’Neill and Gopnik 1991), but they still often do not know through which modality they can find out the property of a hidden object (Robinson, Haigh, & Pendle, 2008), e.g. that a thing’s color is determined by using one’s visual sense, whereas for something like texture using one’s tactile sense is superior.

A different but related approach to metacognition was recently put forth by psychologist Heyes (2018, 2019). She claims that there is, for the most part, nothing special about human learning. Humans and animals mainly rely on the same learning mechanisms, which are identical for social and asocial (individual) learning. Occasionally, however, humans rely on special learning mechanisms that have been forged by cultural evolution. These cultural learning techniques require the capacity for metacognition and are in play whenever a learner deliberately guides her learning by following heuristics such as ‘copy the farmer with the biggest crops’. Cultural learners thus follow explicit rules that specify who counts as an expert in what domain, allowing them to copy with great accuracy and fidelity those who know best how things are in the world or how something is done. Research led by Harris (2012) suggests that preschoolers between around 3 to 4 years start to selectively seek out reliable testimonial sources and preferably adopt information from those whom they view as the experts.

What unifies the different versions of this account is the thought that human learning is unique thanks to a special capacity to guide and monitor one's knowledge acquisition. In contrast to animals, humans are thought to possess reflective or metacognitive skills that allow them to access what they know and do not know and to carefully scrutinize their epistemic sources.

#### ***II.4. The problem of explanation***

The above accounts have in common the idea that the uniqueness of the human capacity for learning is explained by a *further special capacity* – conceptuality, intersubjectivity, or reflectivity – that humans possess independently of their capacity for learning. This additional capacity is presented as intelligible independently of the human capacity for learning and its role is to explain why the this latter capacity has a distinctive character.

This way of defining human learning raises the question of how the presence of this further capacity in a human individual can be explained. One form of explanation is precluded from the start: an explanation by human-unique learning. This is because human-unique learning is supposed to be explained by this further capacity, not vice versa. Now, if the individual's possession of the capacity cannot be explained by human learning, then two options remain: One can either give a naturalistic explanation and argue that the capacity is innate, belonging to humans' biological nature. Or, alternatively, one can argue that the capacity is acquired by a kind of learning that humans share with non-human animals.

Whichever option one chooses, both raise the same question, namely what it is that makes this capacity distinctively human. What distinguishes the capacity for conceptuality, intersubjectivity, or reflectivity from any other capacity? This question is pressing for these accounts because an answer that is not available to them is that the difference between these capacities lies in the manner of possession or actualization of the capacity. The capacity for, say, conceptuality, on these accounts must be possessed and actualized in the same manner as the capacity to, say, catch a ball because the difference between them is specified on the level of the *content*, that is, on the level of what these capacities enable the bearer to do. 'S catches a ball' or 'S employs concepts' does not describe a difference in the nexus of predication but just in the content of predication.

This raises the question of what entitles these accounts to claim that the presence of capacity x – conceptuality, intersubjectivity, or reflectivity –

alters the *form* that the capacity for learning takes when it is combined with it. Remember that the role of capacity *x* is to combine with non-human learning in such a way that it brings about a human-unique form of learning: Humans not only learn different things but they can learn in a way no other animal can. However, if we think of capacity *x* in terms of the two options mentioned – as either innate or acquired through non-human-specific learning – then it is not clear how the presence of this capacity can have the effect of giving human learning a unique form.

One might want to counter this objection by claiming that capacity *x* does in fact give human learning its species-unique form because the capacity *x* itself has such a form. Although this would indeed be a good reply, it is not available to these accounts. For one, some further explanation as to what makes capacity *x* formally distinct would then be required. And the idea that capacity *x* is either innate or acquired by a form of learning that is not uniquely human seems to leave no room for any such explanation; rather, it denies its very possibility.

Traditional accounts of human learning thus face the problem that in order to explain the distinctiveness of human learning in terms of some further special capacity, they are forced to resort to a specific form of explanation: an explanation ‘by nature’, as we will call it. This form of explanation does not illuminate how the presence of this capacity can make a difference for human learning not just in content but in form.

### III. The human form of life as explanation

In what follows we will turn to a philosophical tradition that is attractive not only because it solves the explanation problem, but also because it makes visible why a question one faces when surveying the above three accounts, namely which of the three capacities one should favor, is misguided. It is misguided because it rests on the assumption that the distinctiveness of human learning stems from a specific further capacity that is intelligible prior to and independently of the capacity for learning. But this assumption is confused, resulting from a failure to reflect on the notion of the human form of life that is implicitly present in this debate. A philosophical tradition that challenges this assumption is rooted in Aristotle’s conception of the human as he expounds it in *De Anima*. What makes human life unique, as Aristotle argues there, is not specified on the level of the capacities of its individual bearers, but on the level of ‘a form of life’ (Aristotle 1984).

In what follows, we will lay out this view by relying on two contemporary positions that advocate the Aristotelian idea of a form of life. These are the positions of Michael Thompson (2008) and Philippa Foot (2001). What unites their Neo-Aristotelian positions, despite their differences, is the thought that the anthropological difference cannot be accounted for by any specific capacity of individuals and that we should instead endorse the idea of the human as an intrinsically *self-conscious form of life*. To be a human being means to actualize a form of life that is intrinsically self-conscious. Inspired by this idea, we will argue that the unique quality of human learning cannot be understood prior to and independently of the self-conscious character of the human form of life. The fundamental question is thus not ‘How does the human capacity for learning differ from non-human animals’ capacity for learning?’ but ‘What is the meaning of “learning” with reference to a kind of animal whose form of life is self-conscious?’ To approach an answer to this question, we will first explicate what we mean by a self-conscious form of life in order to then, in Section 4, explain the role that learning plays in sustaining this form of life.

Aristotle distinguishes three formally different answers to the question of what it means for something to be alive. These answers are captured by the terms ‘vegetative form of life’, ‘animal form of life’, and ‘rational form of life’. The distinctions are formal in that they denote different ways of determining the meaning of an otherwise abstract idea of a form of life. In its fundamental use, rationality, as that which characterizes the human form of life, does not describe a capacity or feature of a particular a human individual. Rather, its role is to give determinate meaning to the otherwise abstract idea of a form of life. According to the Neo-Aristotelian position, the term ‘rational’ specifies a distinctive manner in which a form of life thus specified explains the activities of its bearers. ‘Rational’ specifies how the capacities that constitute such a form of life explain the activities of its bearers and what it therefore means to say that these bearers and their activities actualize their form of life. In this logical employment, ‘rationality’ defines a distinctive form of explaining activities through their form of life, namely one that is intrinsically self-conscious. This form of explanation differs from the forms of explanation that are deployed to explain the animal and vegetative life, respectively. Thus the human form of life differs from others not because humans have special capacities, but because the *nexus of actualization* between the life form and its bearers is self-conscious. What it is for a human being to be alive and to actualize her form of life has a distinct meaning

because the concept of self-consciousness specifies the meaning of each and every vital concept as it applies to this form of life. Michael Thompson brings out this point in the following passage.

In representing any animal as thinking or as in pain, I bring it to a certain formally distinctive unity; in representing it as bearing self-knowledge of these things, I represent the animal as bringing itself to a unity of the same type. Self-consciousness is always implicitly form consciousness. (...) (T)his will have to be a feature of the life form itself: *it belongs to the prosecution of such life to see things in the light of it*, as we might say. Its representation is a part of it (Thompson, unpublished manuscript, 727).

What Thompson articulates here is that humans instantiate a life form that is self-conscious in the sense that this life form would not exist if it weren't for its bearers representing their activities as manifestations of their life form. It is a life form whose existence depends on the subjects' explaining their activities as manifestations of this life form. In other words, it is part of the very concept of the human form of life to be instantiated by beings who represent themselves and their activities as instantiations of their form of life. Philippa Foot expresses a similar idea when she asserts that the human form of life is one whose bearers not just *have* ends toward which they act but who *know* 'an end *as an end* or a means *as a means* to that end' (Foot 2001, 54). And knowing an end as an end, she argues, is only intelligible in the context of learning to deploy concepts with which one can articulate one's ends and their justification; concepts one deploys when answering questions about or articulating for oneself what one is doing and why (Foot 2001, 55f).

Importantly, Thompson and Foot are not arguing that human life is special because its members have an added mental capacity to reflect on their thoughts or to form second-order representations of their ends. Self-consciousness is first and foremost not a relation between a subject and its particular acts or ends, but a relation between a subject and its form of life. Self-consciousness specifies the nexus of actualization between a subject and its life form. Subjects of a self-conscious form of life perform activities that manifest their understanding of their life form as something that explains these activities. We can thus define the self-conscious form of life as follows:

Def.: The concept of a self-conscious form of life designates a form of life that it could not designate if it weren't for activities in which the concept of this form of life is employed by its bearers to themselves to thereby explain what they think and do.

Let's call these activities of self-explanation *constitutive activities*. Note that the activities of self-explanation through what one takes oneself to be are constitutive for the concept of a self-conscious form of life; they are not constitutive for a subject to count as a member of this form of life. For the concept of a self-conscious form of life to have any content, there must be subjects that deploy the concept of their form of life in acts of self-predication to explain their own activities. The concept of a self-conscious form of life would be empty without such acts of self-predication. Importantly, this does not mean that every bearer or even most bearers of this form of life are able to perform such acts of self-predication. In fact, it is characteristic of the human form of life that its youngest bearers do not yet possess such a capacity. A child's inability to explain her activities by reference to the kind of being she is, is not an accidental but an essential feature of the self-conscious life form.

#### **IV. The concept of learning and its explanatory force**

The concept of learning has its proper home in the context of a form of life that is constituted by acts of self-predication that serve to explain a subject's activity in light of the life form it instantiates. Human life is full of such explanations. For example, when someone who is asked why she believes that the tomatoes in her kitchen are red, replies: 'Because I saw them', she articulates her consciousness of her form of life. She explains her belief by representing it as an instance of the human capacity to know how things are by perception. She articulates her consciousness of what it means to be the kind of being she is: a being that comes to know how things are on the basis of perception.

The concept of learning enters the idea of a self-conscious form of life because it and only it can render intelligible the very capacity that is constitutive for the concept of a self-conscious form of life: the capacity to self-predicate one's form of life to represent one's own activity as an instance of it. The upshot is that the explanatory power of the concept of learning lies, first and fundamentally, in the explanation of someone's capacity to refer to their form of life with the goal to explain her activities in light of it.

What follows from this is that learning is not an empirical concept. It is *not* an explanatory concept that bearers of a self-conscious form of life acquire by observation, e.g., by realizing that their offspring fails to develop certain skills unless they are helped by some kind of scaffolding or pedagogical intervention. Rather, it belongs to the concept of a self-conscious form of life that it reproduces itself via teaching and learning.

When explaining a subject's capacity for self-predicating a form of life by learning one does not think *a further thought* than the thought one has already formed by apprehending the concept of a self-conscious form of life. One cannot, on one hand, think of a self-conscious life form, and on the other leave unanswered the question of how the members that fully represent this form of life came to do so. Thinking of a form of life as self-conscious implies thinking of its mature bearers (those who fully manifest the life form) as having acquired this status *through learning*. The concept of learning is a logical concept that is part of the meaning of the concept of a self-conscious form of life. This has decisive consequences for the form that learning takes in the life cycle of the individuals who instance this form of life.

In order to understand the logical nature of the concept of learning, it will be helpful to take a brief look at Aristotle's formal distinction of two kinds of explanation for an individual's possession of vital capacities. Aristotle argues that there are two ways of explaining an individual's possession of such capacities through her form of life. One is an explanation 'by nature'. In such an explanation, the explanatory power of the life form is *prior to and independent of* the actuality of that which it explains. This is contrasted with an explanation 'by practice and learning', in which the explanatory power of the life form is *dependent on* the actuality of that which it explains. He explains this difference in the *Metaphysics*:

As all potentialities are either innate, like the senses, or come by practice, like the power of playing the flute, or by learning, like that of the arts, those which come by practice, or by rational formular we must acquire by previous exercise, but this is not necessary with those which are not of this nature and which imply passivity (Aristotle 1984, IX.5. 1047b 30-35).

Aristotle invokes this difference again in the *Nicomachean Ethics*:

(O)f all the things that come to us by nature we first acquire the potentiality and later exhibit the activity (this is plain in the case of the senses; for it was not by often seeing or hearing that we got these senses, but on the contrary we had them before we used them, and did not come to have them by using them); but excellences we get by first exercising them, as also happens in the case of the arts as well. For the things we have to learn before we can do, we learn by doing, e.g. men become builders by building and lyre-players by playing the lyre; so too we become just by doing just acts, temperate by doing temperate acts, brave by doing brave acts (Aristotle 1984, II.1. 1103a 26-1103b 1).

'By nature' and 'by learning' denote two explanatory principles of the possession of capacities that are contrasted in terms of the *relation* that holds between capacity and activity. Their difference is that the explanatory

power of the capacity is, in one case, logically prior to its actuality and, in the other, logically dependent on it. Our claim is that the concept of a self-conscious form of life falls under the latter form of explanation. A self-conscious form of life that a subject manifests in an act of self-predication is logically incompatible with the idea of a form of life whose explanatory power is prior to the activity that it explains. A form of life that is supposed to be identical with what a subject is conscious of when it is conscious of herself cannot be such that its explanatory power is prior to the activities it explains. The concept of learning must therefore be the fundamental principle that explains the capacities of an individual that instantiates a self-conscious form of life. This is so because a form of life whose explanatory power is prior to the activity that it explains must be represented by the subject as something other than herself, namely as something with an explanatory power that her representation of her form of life does not have but upon which her representation of it depends. As a consequence, she who represents a form of life in this way cannot think of herself as identical with the very form of life she represents, and hence, she cannot think of herself as the very actuality of the form of life she represents. Thus, in order to think of herself as the actuality of a form of life, she must think of her form of life as something whose explanatory power depends on the activity it explains, including a subject's activity of explaining itself through it.

This is what the concept of learning, in its fundamental meaning, is: an activity-dependent form of explaining the actuality of a self-conscious form of life whose concept fully manifests itself in a subject's capacity to explain herself through the concept's self-predication. Its fundamental role is to specify the distinctive form of explanation that goes with the concept of a self-conscious form of life. A self-conscious form of life explains its actuality through a learning activity on account of which individuals who only partially instantiate their form of life develop into individuals that manifest it fully. This means that the relation between a self-conscious form of life and learning is *not empirical*. The concept of learning is part of the very concept of a self-conscious form of life because it describes the only form of explanation that is logically compatible with it.

A self-conscious form of life is thus a form of life whose coming into existence is not a matter of biological maturation, as we might call Aristotle's first kind of explanation, but a matter of learning. A crucial consequence of this is that mature members of a self-conscious life form have available to themselves a notion of learning that describes a *sui generis* form of explanation which logically entails the knowledge that one's capacities are the product of learning.



## V. Features of human learning

As argued above, the concept of learning that characterizes a self-conscious form of life is *life-form-dependent*. It has a specific meaning because its logical role is to explain the capacity to self-predicate one's life form. Human life, according to this account, is permeated with this capacity. It is revealed in every corner of human life. The human form of life is that to which I ultimately refer when I am asked to explain why I am doing what I am doing by representing my doing as a manifestation of it. It is that to which I ultimately refer when asked why, for example, I send my children to school or why I believe physical exercise is good for me or why I believe that  $2 + 2 = 4$ . In an utterance of the form 'I know that  $2 + 2 = 4$ ', I represent myself as a knower who can justify her answer by reference to her capacity to calculate. In such a self-predication of knowledge the capacity to calculate, which explains my knowledge, provides a distinctive form of explanation. The capacity for calculation explains my knowledge that  $2 + 2 = 4$  in a manner that entails that the capacity to calculate is available to me as that which explains why I self-predicate this piece of knowledge. In self-predicating knowledge of the topic I represent my knowledge as a manifestation of a form of life that explains why I have a capacity to calculate. I represent my knowledge as a manifestation of a form of life. 'I know that  $2 + 2 = 4$  because I have learnt how to calculate'. Learning in humans, in other words, is an explanatory concept that describes how a self-conscious life form actualizes itself in its bearers who transition from not being able to self-predicate their life form to being able to do so.

In this section, we will sketch three major consequences for the distinctive shape of the human capacity for learning that derive from our account. These consequences correspond with the features that the three families of accounts introduced in Section 2 selected as those that make human learning special. However, in our account these features are understood as a unity and as only intelligible through each other.

A first feature we can derive is the generality of its content. For learning to explain the manifestation of a self-conscious form of life in acts of self-predication, its content must be the form of life whose full actuality it is supposed to explain. The content of an individual's learning cannot be what a particular individual does and knows qua individual but what the life form does and knows. Thus the content of learning is general. This does not imply that what the child learns is conceptual from the very beginning. On the contrary, conceptuality is an achievement that the

learner must attain throughout the course of learning. In order to understand how learning explains the acquisition of the concept of what is learnt, we must turn to the second feature of learning.

The second feature of learning that we derive from the idea of learning as the path of actualization of a self-conscious form of life is its second-personal character. Learning, as part of the concept of a self-conscious form of life, is learning by me from you. This is so because any concept that characterizes a capacity of a self-conscious form of life, we have argued, has no content *unless* it is employed by some of its bearers in acts of self-predication to explain themselves. These acts of self-predication are constitutive for the very content of the concepts that characterize capacities of a self-conscious form of life. It follows that the concepts humans deploy in such self-predicative acts must be acquired through a learning activity that entails the deployment of these concepts by another (a model) whom the learner recognizes as a being of the same kind. For otherwise, the concepts would not be acquired by the learner as concepts of her *own* form of life. At the same time, the learner must conceive of the model as different from herself. For otherwise, she would not be able to *learn* anything from her. Since this difference cannot be one in kind, it must be one in degree. Thus, learning is a relation that entails the consciousness of the other as manifesting to a fuller extent the same kind of being that oneself is.

This consciousness of the other as identical to myself in kind but different from myself in degree entails, as part of its condition, that the other has this very consciousness of me. Thus, part of my consciousness of the other as identical to myself in kind and different in degree is the *other's* consciousness of me as identical to *herself* in kind and different from herself in degree. And vice versa: part of the other's consciousness of herself as identical to me in kind and different from me in degree is my consciousness of her as identical to myself in kind and different in degree. The paradigmatic instance of this shared form of consciousness is the bipolar relation in which a learning subject is addressed by another as a learner whom she, the learner, in turn addresses qua teacher. This occurs when, e.g., a mother who wants to show her child how to ride a bicycle says 'Now you do this' as she steps on the pedals, to which the child, willing to learn, responds with 'How do I do it?' in the hope for further assistance. Learning is thus a capacity whose actualization, as such, entails the mutual recognition of learner and teacher as sharing a form of life that they actualize in their shared agency. Only then can learning explain what it is supposed to explain, namely the actualization of a self-conscious form of life.

On our account then, the conceptuality of human learning is not a self-standing feature that is intelligible independently of the second-personal character of learning but is rather made intelligible through it; just like the second personal-character of learning cannot be understood independently of its conceptuality. Conceptuality and intersubjectivity are two *interdependent* aspects and are both part of the explanation of how the human life form, qua self-conscious life form, actualizes itself.

The same thought applies to the third feature of human learning that we can derive from our account, which is that human learners, qua learners, are able to reflect on what they learn, for example whether and how to exercise the capacity in question or how one's exercise of it might be improved. The capacity to reflect upon what one learns is built into the very form of human learning. It is not an extra feature of learning that calls for an explanation other than the explanation that is already contained in the idea of a self-conscious form of life. The capacity to reflect upon one's doings only makes explicit the kind of awareness that is already present in the capacity to acquire a general content from another being that one takes to be identical with oneself in kind. For, as we argued above, this is what human learning essentially is: learning from someone with whom one identifies. It is through one's awareness of the unity of oneself and other that one learns whatever one thereby learns. This means that it is part of my understanding of the content I acquire from you that it is not identical with anything you do on this particular occasion, nor with the many things you have done on the many occasions I have acquired it from you. Rather, it is part of my understanding of the content I acquire from you that it is the shared ground not only of the different things you do on different occasions, but of the different things I do on different occasions as well.

What I acquire from you is thus, from the start, conceived as a capacity that is not only actualized in your doings but that can be actualized in my doings as well. It is this awareness of the logical difference between the capacity one acquires and the particular exercises of it by the other from or through whom one comes to exercise it oneself that is the source of any reflective thought on one's own exercises of the capacity, e.g. the thought that one could exercise one's capacity better than one currently does or that one should do so under better circumstances etc. For being aware of the logical difference between the capacity and its acts means being away of your and my doings as grounded in the capacity in a manner that is either perfectly in accordance with it (your doings) or less than perfectly in accordance with it (my doings). It implies an

awareness of the normative relation that pertains between what I am acquiring from you (the capacity to do  $x$ ) and what I am doing in virtue of it. Someone who is aware of this relation—the normative relation between the capacity and its acts—is thereby in a position to reflect on the relation of its doings and the capacity they actualize. The capacity to reflect upon that which one learns is thus built into the very form that learning has in the context of the human life form. It is a capacity that has its source in nothing other than the kind of awareness that constitutes the capacity for learning in the first place.

## VI. Final remarks

We argued that the proper context in which the problem of learning needs to be understood is the human form of life. We claimed that humans have a uniquely self-conscious form of life. It is self-conscious in that its bearers refer to their form of life when making sense of and explaining their activities. Learning is a logical element of this form of life. Its bearers transition from a stage in which they do not yet fully instantiate this form of life to a stage in which they do through learning. The concept of learning, when applied to a self-conscious form of life, describes a distinctive form of relation: a relation to one's own form of life that has the shape of a relation to you. To say that the concept of learning is logically contained in the concept of a self-conscious form of life means that without the distinctively second-personal character of learning, the very concept of a self-conscious form of life, and a fortiori all concepts that are contained in it, are empty.

As a logical concept, the concept of learning does not describe an activity that a self-conscious being exercises on occasion. Rather, it specifies the kind of development that a self-conscious being undergoes as it progresses toward a full or complete manifestation of its form of life. The human capacity for learning is thus unique not because a human learner is endowed with special capacities for conceptuality, reflection, or intersubjectivity, but because of its role in explaining the actuality of a form of life whose concept would otherwise lack content.

Our account thus commits us to the idea that learning/teaching episodes involve the exchange of general content (conceptuality) between individuals who recognize one another as you (intersubjectivity) and develop a reflective relation to what they know and are capable of doing (reflectivity). We make no further claims about the 'technicalities' of knowledge transmission. We do not think that special ostensive

signaling (Csibra and Gergely 2011), learning-strategic metacognitive considerations (Heyes 2018) or special mind-reading skills (Tomasello, Kruger, and Ratner 1993) are necessary for children to engage in the kind of learning that characterizes the human species. The absence of any further such specifications is a virtue because it recognizes the wide variety of shapes and guises that human learning takes depending on cultural (Correa-Chávez and Rogoff 2009; Lancy, Bock, and Gaskins 2010), linguistic, and situational factors. This variety should not, we think, be artificially limited to instances in which specific vocal and behavioral markers are used to draw on the child's attention – markers that seem neither necessary nor sufficient for learning to be successful (see also Nakao and Andrews 2014).

Some among the different shapes that human learning takes – between cultures but also between different instances of the same culture – may superficially look more like learning mechanisms such as mimicry and emulation, which humans are thought to share in common with certain animals (see Tomasello 1999). For example, a child might learn to whistle a song or perform a dance by reproducing the sounds or movement another makes (mimicry), or she might reproduce the effects of an act that she saw another perform, without also replicating the specific technique or procedure (emulation). And yet, this child would still, on our account, execute human-unique learning and not engage in the same kind of learning as, say, a parrot or an ape because her action is an instance of learning that is characteristic of her life form. The likeness between the mimicry of parrots or the emulation of apes with its analogs in humans is merely a similarity, not an identity. The self-conscious character of the human life form pervades humans' capacity for learning such that these kinds of learning are distinct in humans and animals. Mimicry and imitation in human life take on a different form because they are instances of a form of learning which manifests a 'we-consciousness' through which the learner is related to the one whom she mimics or emulates as another instance of the form of life they share.

To think of learning as an activity that manifests a self-conscious form of life means, we argued, that human learning is essentially second-personal. It is a capacity that one human exercises jointly with another, in mutual recognition of a we that they constitute together. As a learner, I am aware of myself and you as two instances of a form of life that would not exist without being manifested in this we-consciousness that we exhibit when I learn from you. The other is thus neither a mere occasion for learning, nor does the content of learning simply happen to be acquired from another when it might as well be given innately or fall from heaven. Rather, learning from another self-conscious being is the

very activity without which the concept of a self-conscious individual is empty. It is a unique form of acquiring and shaping one's capacities because it afford joint action between you and me.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

This work was supported by a grant awarded to the first author by the Spencer Foundation [grant number 201700128].

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