Conclusion

Laying the foundations of affective social learning

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C.1 The affective social learning triangle

When we came up with the idea of combining three of the key notions in social sciences – *affect, social and learning* – we could not have anticipated that our neologism – affective social learning – would trigger so many fascinating thoughts and associations of so many researchers coming from so many different perspectives. Indeed, the views expressed and the analyses completed within these chapters are so rich and so varied that it would be presumptuous to try and summarize each contribution. However, needless to say, each author has forced us to rethink at least one of the main aspects of affective social learning (ASL). Our principal goal for this concluding chapter then, is not to provide a summary of each of the chapters, explicitly addressing each point as we write, but rather, it is to use the various thoughts and reflections contained within to rethink and improve on the design of ASL. Having sketched out the plans for ASL in earlier works (Clément & Dukes, 2013, 2017; Dukes & Clément, 2017), the first few pages of this book constitute, perhaps, a first true draft. Equipped with the intellectual tools provided by the chapter authors, it seems time, as we approach the book's end, to properly lay the final foundations of ASL.

However, before we begin, we would like to highlight what we feel is novel and original in this conceptualization of the transmission of – in comparison to similar concepts, and to other ideas that are similarly named.

There is of course always some arbitrariness in the choice of a concept, but it seems that the nature of the processes we have in mind necessitates a new concept. Another potential candidate name might have been something like *affective acculturation.* However, this name would have suffered from two disadvantages. First, acculturation is often understood in the literature as the 'cultural modification of an individual, group, or people by adapting to or borrowing traits from another culture' (Merriam-Webster

This chapter is co-authored and the authors share responsibility equally for its contents.

Dictionary). In this sense, it could be seen to be a behavioural and emotional 'corrective'. Given that our primary aim is to detail the processes by which individuals become to incorporate a cultural form of life, this sense is too specific for ASL, as in all the examples we used above, chiefly refers to our *primary socialization*. The second conceptual error would be to attach to the phenomenon the term *culture* itself – instead of *social* learning. This could be problematic from a phylogenetic perspective, as we wanted to favour a continuity with non-humans. From a naturalistic perspective, it seemed easier to focus on cases of social learning, without ruling on the case of culture itself. ASL is anchored in the belief that some of these values exist outside of language and that they can exist in non-human primates and in other species, but it is not always clear to what extent we can describe these species as having cultures, although it is easier to describe the individuals that collectively make up the species, as social beings.

Clearly, ASL is not to be confused with socio-emotional learning (SEL) either. While the titles are strikingly similar, SEL deals more with the mechanics of emotion recognition and expression themselves, such as relationship skills, social awareness, empathy, conflict resolution and decision-making. In short, it deals with how to manage one's emotions to have a positive, fulfilling life. Many of these programmes appear to either be implicitly or explicitly inspired by serious academic research (e.g. Camras & Halberstadt, 2017; Halberstadt, Denham & Dunsmore, 2001), and there is now a great deal of evidence demonstrating how successful these programmes are, not only in addressing socio-emotional problems, but also in improving academic performance (Durlack, Dymnicki, Taylor, Weissberg & Schellinger, 2011).

There are, however, other concepts that deal with themes that are much closer to aspects of what we mean by ASL. For example, Gerben van Kleef's emotions as social information (EASI) theory (van Kleef, 2009, 2016; van Kleef, de Dreu & Manstead, 2010) deals with how our emotions, or, more specifically, our affective expressions, influence the individual concerned. Van Kleef pinpoints two types of mechanism that underlie the interpersonal emotional affects, inferences and 'affective reactions' that help the observer, 'better understand the feelings, desires, motives, and intentions of the person expressing the emotion, and to act accordingly' (van Kleef, 2016, p. 38). In another profoundly social account of emotion, Sally Planalp's book entitled *Communicating Emotion* (1999) tackles questions of how emotions can be conditioned by those around us in interpersonal exchanges and particularly focuses on the meaning of emotion. While both of these books are concerned with socio-emotional processes and about how we extract meaning from emotion (and thus, by implication, affecting how we feel and how we act downstream), neither of them deals specifically with learning about a particular object – in

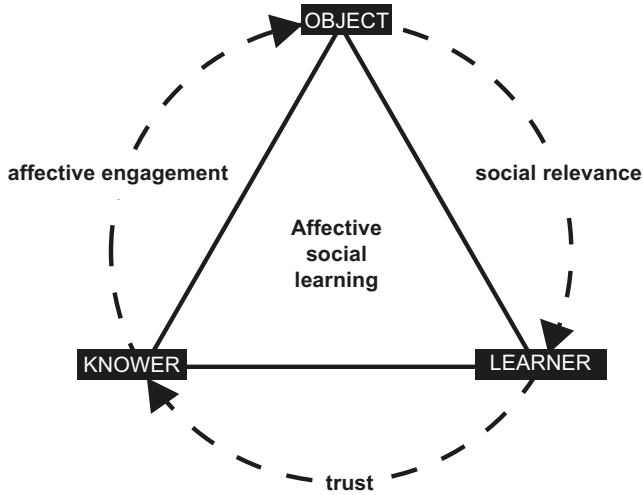

Figure C.1 ASL depicted as a relational triangle of object, source and learner.

fact, they are comparatively 'object free', at least in terms of our account here of ASL. Indeed, it is within this relational triangle, between knower, object and learner that ASL finds itself, and it is with such a triangle that we continue here (Figure C.1), as we remind the reader of how we characterized ASL in the introductory chapter.

The three points of this triangle are what we called the object, the knower and the learner. Thanks to the different contributions to this book, we will now be able to better specify what ASL is really about, to what extent the knower's identity is important, and what kind of mechanisms are necessary to learn in ASL. Moreover, we will be able to improve our descriptions of the sides of the triangle, each of them representing a specific relation (illustrated by the arrows): the (pre-existing) affective relation between the knower and the object, the affective relationship between the knower and the learner and the novel or modified affective link between the learner and the object.

C.2 The points of the ASL triangle

C.2.1 The object of ASL

Before describing the different components of ASL more carefully, it is important to remind ourselves of exactly what we set out to achieve in developing the concept itself. From an ontogenetic point of view, our idea is very much in tune with a line of research that insists on the fact that

children are not isolated scientists, individually (re-)discovering what the world is made of, but rather, that most of what we know, believe or cherish is transmitted to us from others, via their *testimony* (Clément, 2010; Harris, 2002, 2012). However, even if emotions could be considered as a form of communicated information, as *affective testimony* perhaps (Clément & Dukes, 2017; Harris, Chapter 3, this volume), we thought that this explanation triggered the temptation to depict all learning processes as being intentional. After all, the notion of testimony usually involves the intentional transmission of some piece of information from one person (the knower/source) to another (the learner). However, various methods involved in certain anthropological traditions led us away from that particular temptation for two reasons.

First, anthropologists have produced numerous monographs that highlight the unbelievable variety of cultural forms of life. It is indeed fascinating from a scientific observer's point of view, for example, to consider how humans are shaped by the many different cultural demands made upon us, by each other – how many diverse ways there are for us to feel that we become the individuals that we are today, both fully realized and unique, simply by fulfilling the implicit and explicit cultural objectives that are considered as essential by our given community. But the differences in these forms of life, even within the same neighbourhood, can nevertheless still be quite radical: what can seem arbitrary and futile from an external point of view can be seen as essential and vital for those inhabited by the values they have inherited: the cultural practices of the Asian butcher in one part of the city can remain completely opaque to the African baker next door and again to those of the Jewish teacher across the street, the Catholic priest and the transgender actor, for example. And of course, each of us is likely to embody mixed cultural heritages, from the family we are born into, to the nation we belong to, to the job we have, the people we socialize with, the god(s) we believe in, etc. And yet, each of us can believe, to various degrees, that our culture has the monopoly on 'the truth' or on 'what is right'. One stark example of how ingrained these cultural values can go, how internalized they might become, is to argue that we are so accustomed in the West to living within our culture 'that it is easier to imagine the end of the world than to imagine the end of capitalism'[1] (e.g. Jameson, 2003, p. 76). Contemporary media seems filled with tales of the zombie apocalypse and impending environmental Armageddon, but relatively few people appear to be imagining how life could be in the West in a non-capitalistic future, for example. The deep (and largely unquestioned) conviction that what is at stake in a given

[1] This phrase is of disputed origin. The interested reader should consult Fischer (2009, esp. chap. 1).

culture (irrespective of which culture) is worth living for, and indeed, worth dying for, has been aptly named *illusio* by the sociologist Pierre Bourdieu (Bourdieu, 1998, p. 115).

Given the importance of these cultural incentives in the daily life of every human being, it seems crucial to better understand how the processes of adherence to such social values unfold. In an earlier study, we (Clément and Dukes, 2013), connected this line of questioning to the theory of cognitive appraisal by showing that these, sometimes seemingly arbitrary evaluations of what matters in any given culture can be considered an issue of *social relevance*: while our own private investigations may guide us in determining what is relevant to meet our own biological needs, other people serve as guides – as *proxy relevance detectors* – about what is socially relevant in order to fulfil our cultural aspirations. This theoretical twist enabled us to root the question of adherence in the burgeoning field of affective science and to make extensive use of other concepts: emotion contagion, social referencing, social appraisal and natural pedagogy. Our bet is that insisting on the importance of others' appraisals in the socialization process could offer many important insights about how to improve our understanding of how individuals progressively integrate and become an active part of a social group.

The second aspect of the anthropological tradition that encouraged us to develop a specific concept is the ethnological descriptions of the way cultural transmission tends to unfold in traditional societies. As summarized notably by Barbara Rogoff, explicit transmissions of cultural information are actually quite rare and, in any case, quite different from how it happens at school (Paradise & Rogoff, 2009): children essentially learn through observation, with a more or less active participation in the different activities of their community (Rogoff, 2003). In spite of this, children (as well as cultural newcomers) have many opportunities to learn about what is relevant in a (new) culture, simply by observing others' reactions, and, in particular, their affective reactions. In Clément and Dukes (2013), we insisted on the role of *interest*: observing someone being interested by an object, a person or an event is a very good proxy for appraising it as being worthy of attention, as being potentially socially relevant in a given context. But it can, of course, be extended to other emotions, like contempt, disgust or regret (Manstead, Rychlowksa, & van der Schalk, Chapter 8, this volume). Given the prevalence of such appraisal episodes, where the learner is observing a knower who is not really involved in a process of testimony, we included the novel concept of affective observation to add to the different ways by which we learn the affective saliences of our culture.

The *object* of ASL is therefore any input whose value can be appreciated by a learner thanks to some affective appraisals manifested, intentionally

or not, by some member of a given cultural community. This can literally be anything – tangible or non-tangible, physically present or held in imagination, animal, vegetable or mineral, etc. In accordance with the appraisal school (and as outlined in the introductory chapter of this volume), it is not some intrinsic value of the object per se that is reflected in and subsequently recognized in the attitude (facial, bodily, vocal, verbal, etc.), but the value to the person(s) who is/are attending to it. The idea here is that while there are some objects that may have some universal value – a hungry, wild, murderous tiger, might be universally dangerous if it is on the loose, for example – the value of most objects, most of the time, is context dependent and in some cases culturally dependent. This cultural dependence can be captured in an expression, understood by someone else and, as such, transmitted. It is here where we find the beginnings of the concept of ASL.

C.2.2 The knower in ASL

We called the second point of our ASL triangle the 'knower' to highlight the fact that she is the one that already possesses and masters the knowledge of how to value a certain object – she is in some ways an authority on the subject of how to feel and of what matters to her. While traditionally in social appraisal theory this person has been seen as an influencer – from person to person, in ASL, importance is placed on the fact that her evaluations are implicitly the result of her personal history, of her culture, and that, as a consequence, it is possible to gain access to how her particular group feels or perhaps even, *should* feel, about the object in question – from culture to person. Thus, while naming this person *source* would probably be more in line with the psychological tradition (see Parkinson, Chapter 5, this volume; Fischer, Chapter 7, this volume), and may have been a good candidate here to update the title of *knower* in ASL as we lay the final foundations, we think a better candidate still is *model*. As described above, this *model* incorporates her culture(s) and is the result of her cultural moulds. In this naturalistic framing of the transmission of values, one that does not attribute ontological properties to *cultural representations* (Sperber, 1996), it is essential to figure out the 'material' supports of cultural forms. One of the vectors is the actual people who transmit, through their behaviours, emotions, speech acts, etc. the different elements of their culture(s). Whether intentionally or not, they model how they feel towards an object, perhaps through their behaviour, and, as a result, the observer *learns how to feel and behaves accordingly.* By their emotional reaction, the models provide, voluntarily or accidentally, precious information about the nature of the appraised object, its importance, saliency, desirability and perhaps more pertinently, its disgustingness, its scariness, its interestingness, etc. for her cultural group. Again,

the recent line of research on testimony is particularly relevant when specifying the different properties of the model of ASL.

One danger of learning through social appraisal would indeed be the possibility of being misled by learning from some idiosyncratic relation that someone else entertains with a particular (kind of) object (Fischer, Chapter 7, this volume; De Leersnyder, Chapter 9, this volume). For instance, a child trauma suffered by Alfred could trigger a reaction of uncontrollable fear whenever he sees a red Ferrari. A little girl observing this model's (Alfred's) reaction could end up very negatively appraising these prestigious cars, an evaluation that would presumably be at odds with most of the other members of her group. It seems, therefore, very important that the social appraisal process includes some way of filtering the incoming information. The presence of such filters is presupposed by the epistemic vigilance hypothesis that highlights the fact that communication would not have emerged without some cognitive means to avoid manipulation (Sperber et al., 2010). Notably, communicated information seems to be automatically evaluated in relation to other representations that the learner already considers to be true (Clément, Koenig, & Harris, 2004; Koenig, Clément, & Harris, 2004). Of course, the epistemic vigilance hypothesis was designed to target explicit verbal communication, but there is no reason to imagine that information about social relevance is not subject to similar filtering processes. For instance, avoiding idiosyncratic preferences may be obtained by checking that the model's evaluation is not an exception but rather that it would be shared by the others of the model's group. And it has been shown that children automatically use consensus as a means to detect the reliability of a testimony (Bernard, Proust, & Clément, 2015; Corriveau & Harris, 2010; Morgan, Laland, & Harris, 2015). We can then expect individuals to adopt the emotional cues proposed by others with a certain degree of caution when they are learning what is socially relevant in their community – even if this does not prevent them from making mistakes entirely.

Another interesting question that has emerged in this book concerns the necessity of an *actual* presence of the model in order for ASL to take place (see Fischer, Chapter 7, this volume; De Leersnyder, Chapter 9, this volume). In other words, does the model need to be physically present with the learner in order to transmit a given value? This physical proximity seems inevitable in many cases. How can we imagine emotional contagion without real people to trigger mimicry, for example? However, it is not obvious that this presence is necessary in all cases – and even perhaps in some cases of emotional contagion. It might even be possible to imagine that some *virtual others* could play a more important role than real, present people. This is notably the case for fictional characters; in a sense, reading a novel could perhaps be seen either as an example of emotional contagion (the language used and the description could

implicitly drive the reader to be affected by a certain affective atmosphere), affective observation (we incidentally observe certain affective reactions of some of the characters), social referencing (a book is chosen precisely because we expect that the heroes can inform us about how to value certain events or situations) or even naive pedagogy (a story can be intended to be a *bildungsroman*, with an explicit lesson about how to behave and feel in real life in tandem with an effort on the part of the author (the model) to anticipate and react to the virtual *learner*). In each of these cases, ASL might be possible without the model being literally present. Moreover, depending on the talent of the writer, the narrative and the stature of the characters could trigger a strong affective identification for the reader that could even reinforce the impact of the ASL. Studies of religion, too, can teach us about the importance of how gods or ancestors are reported to feel or behave, for example, as a way of defining how we should feel and behave towards the objects in our environment. While these can come second- or even third-hand, people can also be convinced that they have a direct line with a particular deity or even a guru who is guiding them, while praying, for example.

C.2.3 The learner in ASL

The final corner of our triangle is occupied by the *learner*. Even if intuitively ASL essentially concerns young humans, it is by no means restricted to them (Dukes and Clément, 2017). First, primatologists in this book (Schuppli and van Schaik in Chapter 1, and Gruber and Sievers in Chapter 2, this volume) show that it is very likely that non-human primates (notably chimpanzees, but also orang-utan) use others' emotional behaviour to make sense of their environment. Second, ASL not only concerns human children, but adults too. This is especially relevant when people are moving from one cultural group to another, when they are confronted with novelty, for instance, in the technological realm or when they have to evaluate a situation that is relatively complex and/or new to them, for instance when an important political decision has to be made. In such conditions, the uncertainty about the ongoing evaluation will trigger the individual's 'radar' to detect others' reactions.

On this learner side, one of the key questions, notably raised and detailed by Gruber and Sievers (Chapter 2, this volume) and Fisher (Chapter 7, this volume), concerns the competences and processes necessary to take advantage of the teacher's affective evaluations.

The case of emotional contagion is interesting because it could cover different kinds of situation. When the learner is directly involved in a relationship with the model, one would expect some direct mimicry. For instance, when a mother and her child are closely interacting face to face, the emotions of the adult will most likely influence those of the child, as

in Trevarthen's observations (1979). In such cases, even if the triangulation with an external 'object' is not yet present, one would expect that the context where this emotional exchange happens would inherit at least part of the affective ambiance linked to it. For instance, let's imagine that positive affective exchanges are particularly intense at the weekend, when the parents retire from their busy city careers to their idyllic countryside home. It would be surprising if such contexts didn't influence these exchanges and that as a result, countryside, for this particular child, would subsequently be associated with a positive, perhaps even nostalgic feeling. What we have in mind here is actually very close to the *somatic markers* described by Antonio Damasio (1994). Alternatively, and more controversially perhaps, it could also be that the object in this direct interpersonal context is something like *being together*. It would follow then that, *being together* would be coloured by warm, positive affect and that the child would look to engage again and perhaps, more often.

The other kind of emotional contagion situation we had in mind is probably at the very edge of ASL since there is no direct contact between the learner and the model. It is possible to imagine contexts, such as the sports event example described in the Introduction to this volume, that systemically trigger some affective reactions (like excitation and joy) each time they occur. In such circumstances, it is most likely that a given context can be associated, *via* some form of conditioning, to positive or negative feelings, thus enabling a first evaluation of a given object. For instance, if each occurrence of a particular national flag is surrounded by a sense of respect and devotion, a positive association between these feelings and the flag's design will be established, even if the meaning of this symbol is not clear for the child. One could call these associations, lacking in precise intentional content, *affective connotations*. Their role in socialization processes may well be important, and this topic clearly needs further research.

To investigate the cognitive means necessary for *affective observation*, we have to remember that, in these particular cases, the learner has to identify the model's object of attention as well as the emotion that the object evokes. Therefore, even if it is not necessary for the two protagonists to interact directly, it is essential for the learner to detect the object of interest. In the developmental literature, these cases are related to 'joint attention', which emerges at the end of the first year of life (Tomasello & Rakoczy, 2003). In our case, this notion could be misleading because both protagonists are attentive to the same object but not in a 'joint' way. From a cognitive perspective, it is also important to note the passive–active role of the learner. It is *active* in the sense that she is engaged in an active exploration of her environment, using others' behaviour in order to seize what is relevant in their common environment. At the same time, it is *passive* because she is not voluntarily asking help or trying to get another person' attention; she is learning by observation – *eavesdropping* (as in Repacholi &

Meltzoff, 2007). While we insisted on the fact in the Introduction that the learner in affective observation was actively seeking information, we did not intend to suggest that they had been looking at the model to see what they could learn, as has been privately suggested to us. Rather, what we meant was that child is scouring the environment, looking for anything that might capture their attention and only then, incidentally, might start focusing on the other because that person appears to be behaving in an interesting, relevant way. This exploratory motivation to explore could be derived from a very basic seeking mechanism, like the one proposed by Panksepp (for instance, Alcaro & Panksepp, 2011). What could be specific to humans (and possibly other highly social species) is that this inquiry automatically takes advantage of others' experience when deciphering the different affordances of the environment.

Social referencing is, by definition, more active from a cognitive perspective than the two earlier processes. The learner is inhibiting her ongoing action in order to explicitly turn her attention to a more experienced person in order to get some help. This competence seems more complex, in the sense that it involves metacognitive abilities enabling the learner (1) to assess her own uncertainty about how to evaluate a given action/object, (2) to identify that another person has access to better information than herself, in order to (3) eventually modify her ongoing behaviour once informed by the model (see Gruber & Sievers, Chapter 2, this volume, for a breakdown of what is cognitively required for each part of ASL). We are therefore plainly in the realms of explicit inquiry, even if the depth of the investigation may remain rather superficial and relate either to a disambiguation of an ongoing action, or to the appropriateness of a certain reaction. Whether social referencing is developmentally prior to affective observation needs to be investigated (Clément & Dukes, 2013). It could be, for example, that the scaffolding involved in how the affective information is directly communicated and tailored to the individual in social referencing helps the younger infant to follow, but it could equally be the case that the young infant makes unguided associations between other people and objects before then. Given that both experiences are likely from a very young age, it may turn out to be difficult to identify a developmental hierarchy.

From that perspective, the cognitive abilities engaged in *natural pedagogy* seem even more complex to us. Indeed, the learner has a certain objective and, by collaborating with the model, she can, step by step, approach her goal. From a cognitive perspective, this type of acquisition matches closely to what is traditionally involved in learning. But it is interesting to note that most of the cognitive load is borne by the model who notably has to monitor the level of understanding of the learner, to scaffold the information in order to reach the learner's zone of proximal

development and, emotionally, to keep the learner motivated to learn by constantly arousing her interest.

C.3 The different relations in ASL

Having explored and updated the three points of our triangle – learner–model–object – we will now turn to describe what this book has taught us about its three sides or, in other words, about the *relational* aspects of ASL.

C.3.1 Learner to model

It is important to note that, as Brian Parkinson reminds us (2017; Chapter 5, this volume), the relationship between learner and model is not static: although the paradigmatic case of ignorant child and knowledgeable adult may lead us to believe otherwise, within one interpersonal interaction, the identity of the knower and the model can change several times.

Furthermore, and as many of the chapters in this volume insisted, every learner will learn from several models throughout their lifespan. This was even the case for non-human primates like orang-utans, where young learners tend to track their mothers, while older ones observe their peers (Schuppli & van Schaik, Chapter 1, this volume). From an evolutionary perspective, this is not so surprising. After all, learning from an under- or mis-informed source is potentially harmful because it could potentially trigger some non-adaptive behaviours. Given that ASL can be seen as a kind of testimony (Harris, Chapter 3, this volume), and what we have said on epistemic vigilance earlier, we can expect a certain cautiousness on the part of the learner concerning the model(s). In relation to the ASL framework, we hypothesized two kinds of filtering. First, when the model is intentionally expressing an emotion, he has to be *benevolent*, with a desire to provide affective information, the belief of which would benefit the recipient. Indeed, this particular characteristic of the model seems to be evaluated early in development (Bernard et al., 2015; Mascaro & Sperber, 2009). In the case of ASL then, one would expect the kind of emotional attachment the learner has to the model to play a major role; if the learner endures a toxic relationship with the model, this could lead her to use his appraisal in a non-deferential way. Indeed, it could even have the reverse effect and push the learner to value the object differently. On the other hand, one would expect that people engaged in a harmonious relationship will converge in their appraisal. However, when the model is unknown to the learner, this goodwill can also be inferred by some cues. For instance, people who are smiling tend to be more trusted than people expressing anger (Clément, Bernard, Grandjean, & Sander, 2013; Todorov, 2008).

Another important factor for this type of trust is group belonging. A long tradition in social psychology, and more recent research in developmental psychology, has shown how models that are detected as in-group members are much more likely to trigger confidence in the learner. In other words, we are more likely to trust someone we feel we have a lot in common with, than someone with whom we don't (Bryne, 1997). In the case of ASL, one can even suppose that the affective appraisal of an out-group triggers an inverse appraisal by the learner (as mentioned earlier). For instance, an out-group member's expression of contempt could trigger interest for the object. Inversely, an expression of interest by an out-group member could lead the learner to consider that an object does not deserve any interest (see Manstead et al., Chapter 8, this volume, for an illustration of these kinds of processes and a review of the relevant literature).

Second, the model has to be *competent*, or at least more competent than the learner. Indeed, the learner has to believe that the person is a comparative authority on the subject. A rather new but growing field in developmental psychology has shown that even young children are able to assess their respective level of competence (or incompetence) compared to a communicator (see, for instance, Harris, 2012). In the case of ASL, this detection can also be linked with group membership; indeed, it would not make sense for anyone considered to be an out-group member to be viewed as competent in evaluating the different objects in a given cultural environment.

We have previously characterized the relationship between learner and model as one of trust. Certainly, trust plays a part, but, perhaps *deference* would be a better word. Trust suggests a two-way relationship whereas we really want to focus on how the learner perceives the level of competence about the model. In a sense, it is possible to feel that a person is not very trustworthy but, in certain contexts, to defer to her anyway because her authority in a domain is acknowledged. In that context, to defer means to give up on a personal experience and to rely on somebody's knowledge.

Of course, the relationship between the learner and the model is only relevant here if we are to argue that the *decision* to learn is at the least, quasi-automatic, rather than entirely automatic as argued by Mumenthaler and Sander (2012, 2015, Chapter 6, this volume). Clearly, only in cases where the identity of the other person is taken into account in some way can the relationship between the learner and model have any significance on the social transmission of value. Further research is needed to uncover more about the socio-affective inferential mechanisms involved in social appraisal, perhaps by running the study with members of in-groups and out-groups.

C.3.2 Model with the object

Another side of our triangle links the *model* with the *object* where different levels of engagement can be observed by the learner. One aspect is the intensity of the expressed emotion. An intense fear towards an object will most likely result in a different evaluation (and expression, consequent action, etc.) by the learner than a mild anxiety. An interesting aspect of ASL, picked up by Agneta Fisher in Chapter 7, is that emotional reactions can be compared. For instance, a learner could discover from someone else's affective reaction that her own emotion is not appropriate to a particular object in their cultural environment. Making this social comparison can result in modifying the evaluation of different objects: the learner may gather from her new friends' reactions that a certain kind of music may not be worthy of such intense enthusiasm, contrary to what she supposed. This is also the field of many cultural 'markers', different ways of making ones' emotions public (see De Leersnyder, Chapter 9, this volume). The level of engagement of the model is also mentioned in Chapter 1 by Schuppli and van Schaik and we think that it is an important and hardly addressed issue. In a way, it is not only the intensity of the emotional signal but also its sincerity that counts. This is notably the case in natural pedagogy. It is not rare to observe parents or teachers insisting on the intrinsic values of a given cultural object without really 'believing' it. In other words, the communicated emotion is perhaps not really experienced by the model and this discrepancy can often be detected by the learner. On the contrary, a silence and/or a rapid gaze toward a valued object could profoundly affect a learner if they evaluate his behaviour as, for example, a discreet sign of respect and, as such, as an important object for the model.

C.3.3 Learner to the object

To complete our triangle, attention turns to the relation that connects the *learner* to the *object*. We called this *social relevance* because, by the end of the cycle of ASL, the object will have become loaded with a certain socially acquired value for the learner. It is important to note, however, while most of the examples we have provided throughout the Introduction and in this Conclusion have been *cultural* in nature (a rugby team to support, a certain music style to admire, a way of behaving in public, etc.), there are of course examples when the object is simply social, and has nothing to do with culture. Let's imagine a novice skier on a glacier, for example. Not very confident on the slopes yet, he hears a sudden cry from one of the skiers ahead of him. Even though our intrepid hero cannot see the danger himself (a crevasse, for instance), he will change course to avoid any risk. This is a case of ASL, although, as stated above, this is not a cultural example.

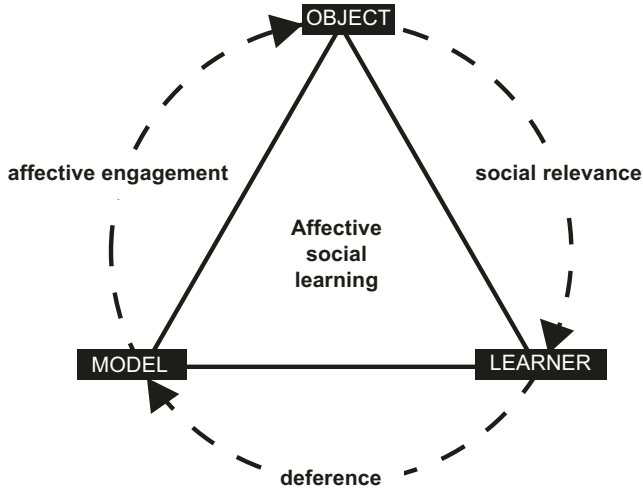

Figure C.2 The (socially modified) ASL model.

Of course, not all objects are dependent on an external appraisal as an individual can evaluate objects, perhaps for some idiosyncratic or physiological reason. One interesting question perhaps concerns the extent to which such personal appraisals can be modified or *overridden* by ASL. In the case of emotion contagion, it is difficult to predict the consequences of a negative social appraisal by the model in a context that has previously been evaluated as positive by the learner. Is it possible, for instance, for the soothing effect of a warm bath for an infant to become completely unpleasant because of the dull anguish a parent might have of water? Affective observation is mainly related to saliency detection but, here too, it is possible that some objects would attract the learner's attention independently of the model's emotions. For social referencing, it is interesting to highlight that the paradigmatic experiment involved a toy that the child was already eager to reach, on the other side of the apparent cliff. And teachers are well aware that learners' attention is not always available and that the preoccupations of one person are not always those of another. In other words, there are many cases where learners are not blank affective slates but rather encounter objects that are already partially evaluated. Part of this appraisal may lie in their personal predispositions (being sensitive to certain sounds, for instance, or having perfect pitch), some being genetic, others socially inherited. In any case, these dispositions will involve a familiarity, a 'natural' ease with certain objects that could counteract, or considerably favour, ASL.

Given these reflections and modifications, each one either motivated by the authors of these chapters, or in articles and books we have read

subsequently or in discussions with people at various conferences, we have learned from others how they feel about ASL, what they think is important to highlight or change and we have begun to lay the foundations of this novel concept (see Figure C.2).

C.4 The future of ASL

This concluding chapter does not pay enough tribute to the fascinating and worthy contributions offered by all the authors of this book. We are happy (and proud) that this concept, invented on a table in a small corner of the University of Neuchâtel a few years ago, has triggered so much interest from so many diverse disciplinary perspectives. The idea that others play an essential role in the way we build our knowledge has definitely gained some impetus recently. Our proposal was simply to extend the idea of testimony from the learning of skills or propositional knowledge to the way that different elements of our environment are enlightened by others' attention, interest and affective evaluations. In other words, how we are all influenced by others in the way we evaluate what is worth living, fighting and, sometimes, even dying for.

Many questions remain, and we have highlighted areas that we think need particular attention throughout this Conclusion. Additionally, we have not made much distinction thus far between different *kinds* of values. While it seems *natural* to give importance to others when explaining how people develop feelings towards modern painting, rugby or béchamel sauce, it is perhaps less obvious in the case of moral values, for instance. Could there be such a thing as *a moral cliff*, where we look to others to help us with the many moral questions we each face every day? On one hand, one could begin to wonder about the extent to which what we consider as valuable is *entirely* the result of our given cultural upbringing. Our intuitive resistance to this idea has to be thought through. On the other hand, one could also wonder about the extent to which some very positive human values, such as universalism or humanism, for example, are also dismissed, particularly when they are being applied to people belonging to one unfavoured out-group or another.

Finally, in these cosmopolitan times of ours, in an age when it has become acceptable to present *alternative facts* and accuse others of distributing *fake news*, the sharing of a common knowledge base is apparently becoming more and more complicated and, as a direct result, cultural values are seemingly becoming more and more entrenched. With some optimism, we can hope that ASL could help us better understand how the transmission of values can make life full and accomplished without encroaching other forms of life characterized by values that are different, but perhaps not *so* different, after all.

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