

Acknowledgement:

This is a draft of a chapter that has been accepted for publication by Oxford University Press in the forthcoming book *The Oxford Handbook of Emotional Development* edited by Dr. Daniel Dukes, Prof. Andrea C. Samson, and Prof. Eric A. Walle, and due for publication in 2021.

Emotional skillfulness and virtue acquisition

Mario De Caro is Professor of Moral Philosophy at University Roma Tre and regularly a Visiting Professor at Tufts University.

Maria Silvia Vaccarezza is Assistant Professor of Moral Philosophy and Secretary of *Aretai – Center on Virtues* at the University of Genova (Italy).

Ariele Niccoli is a Post-doc researcher in Philosophy and Education at the Italian University Line (Italy).

Abstract

In this chapter, we will offer a sketch of the state of the art as concerns existing accounts of virtue acquisition in relation to automaticity. In particular, we will focus on the so-called “skill model,” which we aim to improve by questioning its rather common underlying dualistic picture of the mind. Then we will propose an account of skillful emotions by identifying the features that make them both automatic and embedded in an intelligent practice. Finally, we will show how this view can help the skill model by offering a better description of emotion shaping in virtue acquisition. By doing so, we will contend that emotions contribute autonomously and actively to the skillfulness of the habits in which they are embedded.

Keywords: virtue acquisition; skill model; automaticity challenge; emotion shaping; emotional skillfulness.

Our aim in this chapter is to improve the so-called ‘skill model’ of virtue and virtue acquisition, in order to account for the role played by emotional development in the process of formation of moral habits. The improvements we suggest include: (i) the overcoming of dualistic accounts of the mind, (ii) a novel understanding of how our emotions are shaped in moral development, and (iii) an explanation of how this understanding is relevant to the debate concerning the automaticity and rationality of virtuous habits¹.

First, we will offer a sketch of the state of the art as concerns existing accounts of virtue acquisition in relation to automaticity. In particular, we will focus on the so-called “skill model,” which we aim to improve by questioning its rather common underlying dualistic picture of the mind. Then we will propose our account of skillful emotions by identifying the features that make them both automatic and embedded in an intelligent practice. Finally, we will show how this view can help the skill model by offering a better description of emotion shaping in virtue acquisition. By doing so, we will restore the role of emotions as key components of moral skills, that contribute autonomously and actively to the skillfulness of the habits in which they are embedded.

¹ We are grateful to Dan Lapsley and Darcia Narvaez for their help on many of the ideas discussed here, and to the editors for extremely helpful suggestions for improvement to this chapter.

1. Automatic processes and moral development

In the current debate over moral habits, within and beyond virtue ethics, a defense of the rationality of the automatic processes involved in habits has emerged. Promoters of the so-called “automaticity challenge” hold a broadly sentimentalist account of moral judgement and cognition that aims to offer “an empirical refutation of rationalist models of moral judgement” (Sauer 2012, 256). Therefore, because of the automaticity of habits, they deny that habits encompass deliberation and that they can count as rational. Haidt’s social intuitionism, for example, and Prinz’s sentimentalism, exclude any genuine role of moral reasoning for moral-judgement formation and make it explanatorily inert by claiming that it can at most provide post hoc rationalizations, more similar to confabulations than to verbalizations of previous reasonings toward moral judgement. This challenge to rationalist explanations of judgement formation obviously equates the automaticity of moral judgements with their being intuitive and issued by System I, the evolutionarily older, emotionally hot, fast, and mostly preconscious mental subsystem (cf. Sauer 2012); i.e., with their being products of ‘mere habits’.

In response, several authors have offered accounts of moral habits that claim that, despite their being nondeliberative and largely constituted by automatic processes, they can count as intelligent and bring about virtuous, or moral, overt actions after a history of practice and repetition (e.g., Sherman 1999; Pollard 2003; Snow 2006; Sauer 2018). In arguing for this thesis, most of the authors involved focus on the underlying reasons for action, and on the long-term goals encompassed by habits, and hold that it is the rationality of such reasons and goals that, in turn, makes the related automatic processes intelligent, albeit deliberation free (cf. Kurth 2018). To put it more clearly, according to this picture automatic processes count as intelligent when they are *brought in line with reasons and goals provided by moral reasoning and deliberation*.

The diverse positions on the market can be thus traced back to a common underlying argumentative strategy that can be summarized to the effect that:

- i) there are different components of automatic processes and moral habits, one of which is potentially irrational or blind: the potentially irrational or blind component of automatic processes and moral habits is the emotional one;
- ii) but emotions can be shaped or reformed by being brought in line with judgements and deliberations issued by moral reasoning;
- iii) thus, automatic processes and habits can be rational.

Along this line of thought, most virtue-ethical accounts of emotional development consist in a (re)formation of emotions, and more generally of intuitive and automatic processes, that aims at bringing them in line with correct moral judgements reached through deliberation. A revealing example of this is what Sherman states: “[...] many morally problematic attitudes have at their core emotions that require reform.... Change that penetrates not merely conduct but attitude must work on those emotions and their constitutive evaluations. *The aim is to bring these constitutive evaluations in line with reflective and justified beliefs*” (Sherman 1999, 46—emphasis in original; see also Sauer 2012, 2017).

Among virtue ethicists, Kristjánsson has partially mitigated this stance and devoted much effort to showing that emotions can “to varying degrees, ‘share in reason’—which is different from merely being controlled or policed by reason” (2018, 19). The cognitive content of emotions, expressible in propositional form, remains the key marker of their (good) development (for a discussion on the development of cognitive reappraisal, see DE FRANCE, this volume).

Being, like Kristjánsson, among the virtue ethicists who attempt to defend the intelligence of (good) habits despite their automaticity, we think it is worth spending a few more words on proposers of the skill model of virtue. Roughly, the skill analogy holds that moral development (i.e., virtue acquisition) can be fruitfully modeled on the acquisition of a practical skill, which implies a gradual refinement and adjustment of actions, feelings, and thoughts through a history of practice and repetition. This model, developed within a neo-Aristotelian virtue-ethical framework, directly addresses the problem of the interplay among skillful agents between the deliberative, articulated, effortful intellectual activity and the intuitive, immediate, effortless (i.e., automatic) way to face a situation. Depending on the emphasis placed on deliberative or automatic processes, different accounts of skilled performance and expertise (and, by extension, of virtue as skill and ethical expertise) take an intellectualistic stance (e.g., Stanley 2001, 2011; Annas 1995, 2011) or an anti-intellectualistic one (e.g., Dreyfus and Dreyfus 1986, 1991), both reproducing a pyramidal picture of the mind.² A more balanced version of the skill model of virtue has recently been put forward by Stichter (2018), who grounds his work in self-regulation theory (i.e., goal setting and striving) and attempts to give a nuanced account of skillfulness as a fine-grained and synergistic integration of deliberative *and* automatic processes. Also, against the view that locates the automaticity of virtuous action in its skillfulness, Rees and Webber (2014) argue that one should distinguish among different kinds of automaticity, and that findings of empirical psychology support a view according to which the automaticity of virtuous action is automaticity, not of technique, but of motivation. Anyway, among

² An exception is represented by De Caro, Vaccarezza, and Niccoli’s account of ethical expertise (2018).

the proponents of the skill model of virtue, emotions as a key component of the automatic processes involved in moral habits have received relatively little attention (but see Fridland 2017).

In sum, besides their relevant differences, both opposers and defenders of the rationality of habits place emotions and reason in opposition, as if they were independent and incompatible explanations of moral-judgement formation, the former leading to a denial of and the latter to a defense of the intelligence of habits; however, by doing so, the two groups appeal to very dubious hierarchical, or pyramidal, views of the mind. The idea that cognitive functions and emotions are clearly separated and that between them there is a hierarchical relation (in either direction) is at odds with the results of some very interesting work in cognitive science and neurobiology. In this light, a more preferable view, one that is gaining traction in cognitive science, sees the emotional and the rational component of the mind as working synergistically, without one being superior to the other. In a recent article, Okon-Singer et al. (2015) have convincingly argued that “the distinction between the ‘emotional’ and the ‘cognitive’ brain is fuzzy and context-dependent.... [E]motion and cognition are deeply interwoven in the fabric of the brain, suggesting that widely held beliefs about the key constituents of ‘the emotional brain’ and ‘the cognitive brain’ are fundamentally flawed.”

Evidence of the constantly nonhierarchical interaction between cognition and emotion is offered in regard to mental phenomena such as memory, attention, control, drive, and motivation, and increasingly also in regard to neuropsychiatric disorders such as anxiety disorders, depression, schizophrenia, substance abuse, chronic pain, and autism (Pessoa 2008; De Oliveira-Souza, Moll, and Grafman 2011; De Caro and Marraffa 2015). It is time that moral psychology also accepts the idea that cognition and emotion, far from being in a hierarchical relation, constantly interact in a synergic way (see chapters REDDY; TURIEL; WALLE this volume).

In the next section, we argue for the existence of skillful emotions that are intelligent despite their automaticity (Fridland 2015), and that represent the emotional components of the virtues. Finally, we illustrate our account by looking at the processes of habitualization and virtue acquisition from the point of view of the emotions, and by seeing how they become intelligent, not only by internalizing reasons, but mostly by developing their own inner skillfulness.

2. How emotions become skillful

A key move toward understanding the skillfulness of emotions is to take a closer look at the notion of automaticity. Emotions have long been studied as a mixture of automatic and controlled processes in psychology (see L.F. Barrett et al. 2007 for a critical discussion of dual-process models in emotion theory); similarly, the philosophy of emotions has mostly identified features that emotions share with

automatic processes. For the purposes of the present work, we need to recall three basic features of emotions: (i) typically, they are experienced as passive affective states, which often occur to us involuntarily, and are not under the direct control of deliberative processes; (ii) they involve fast activation of patterns of bodily changes; and (iii) they prepare us to act.³

In recent years, both in psychology and in philosophy of action, much has been done to overcome a simplistic view of automaticity (e.g., Bargh 1994; Douskos 2017; Fridland 2015; Logan 1985; Moors and De Houwer 2006; Schneider and Chein 2003). Theoretical and empirical research convincingly shows that the category of automaticity should be unpacked into several distinct features that relate to one another in different ways, none of which alone defines what counts as automatic. Accordingly, we should do our best to resist the “conceptual slip from ‘automatic’ to ‘unintelligent’” (Fridland 2015, 4337).

Before proceeding, a caveat is needed. In this work, we take “automaticity” as an umbrella term specified by features that apply to it, and we consider, among the several features of automaticity proposed by different scholars, only the relevant ones for the role emotions could play in the virtue-as-skill model. According to a gradual view of automaticity, the best way to account for it is to identify various continua (e.g., [un]intentional, fast-slow, [non]efficient) that, taken together, circumscribe the set of features to which the umbrella term “automaticity” refers. In short, the idea is that the more a given process is appropriately trained, the more it moves from one pole to the other of the continua (Logan 1985, Moors and De Houwer 2006). It is worth noting that the concept of gradual automaticity claims to have internal consistency (i.e., changes in various features should converge), but allows each feature to change along the continuum at its own speed and in response to different amounts and kinds of training. Thus, a given automatic process can be more or less intentional, fast, efficient, and the like, depending on the kind and amount of training. Think, for example, of learning how to drive a car. According to a gradual approach to automaticity, shifting gears may become an efficient action, but still remains for a certain time very slow and intentional. After a while, shifting gears becomes progressively faster, but still requires a fair share of attention to be accomplished efficiently; eventually (and hopefully!) speed, unintentionality, and efficiency in shifting gears converge and make someone a skilled driver in that respect. But the time needed for each feature to change, and the way each change affects the others, depends on the amount and kind of training (in addition to the characteristics of the learner).

In the specific case of emotions, we argue that there are two relevant continua: from insulated to cognitively penetrable, and from impulsive to spontaneous. It is precisely by moving from the first

³ These minimal assumptions about emotions are compatible with major theoretical approaches, but not with hard judgmental theories that rule out a substantial role of the body for explaining emotions.

of the two poles to the second that an emotion becomes skillful. Presenting features of emotions as distributed along continua puts us in a position to make a few claims about substantial theoretical points about them. For instance, at one pole of a continuum we allow for some emotional episodes to be almost cognitively impenetrable, whereas at the opposite pole some emotional episodes are highly sensitive to their cognitive background. This strategy seems to us to be a very promising way to look at emotions from a developmental perspective and to be consistent with core claims about emotional development in most virtue-ethical accounts.

From insulated to cognitively penetrable

Our first claim is that skillful emotions are (relatively) cognitively penetrable, as opposed to insulated. As Peter Goldie argues, an emotion's "cognitive impenetrability admits of degrees, and need not be total" (2000, 77).

The notion of cognitive (im)penetrability points to the (im)possibility, for a certain psychological process (e.g. visual perception), to be influenced by higher-order cognitive capacities (e.g. beliefs). It is important to notice here that, for there being cognitive penetrability, a mere causal relation is not sufficient. Rather, a process is cognitively penetrable when it is sensitive to the intentional content of cognitive states in a meaningful and semantically coherent way. Imagine, for example, an expert woodcutter habituated to carefully pay attention to subtle rustles in the grass, in order to avoid vipers, that spread in its territory. He has learned to ignore a wide range of noises and selectively detect the peculiar rustle of snakes, but each time he perceives that kind of rustle, he feels an appropriate fear that helps him to skillfully address the situation. Suppose, now, that our woodcutter moves to Sardinia, an island where vipers are absolutely absent. Initially, the same kind of rustle triggers the same kind of fear, but little by little his well-established emotional reaction starts to become milder. When he perceives the relevant stimuli, his heartbeat and blood pressure don't increase, his eyes don't immediately turn, he doesn't tighten his hold on the hatchet, and doesn't feel acute discomfort. Rather, he keeps on working and only takes a glimpse to the grass whenever a rustle occurs. His fear has been penetrated by the (true) belief that, in Sardinia, rustles in the grass cannot signal a viper.

Our view presupposes a rejection of the account of emotions as "affect programs" (e.g., Griffiths 1997; Prinz 2004), according to which systems responsible for emotions are largely modular (Fodor 1983). That is, emotions as affect programs are, among other things, (i) automatic, (ii) triggered by a restricted class of stimuli, and (iii) cognitively impenetrable (Deonna and Teroni 2012, 20). Indeed, it has recently been argued that the alleged link between automaticity and cognitive impenetrability is weaker than usually supposed. Fridland, for example, shows that, even if we adopt the narrowest

and most demanding view of cognitive penetrability (Pylyshyn 2000; Macpherson 2012), some behaviors automatically performed within the exercise of motor skill exhibit meaningful sensitivity to the intentional content of cognitive states. In short, “at least some automatic processes seem to be directly cognitively penetrable” (Fridland, 2015, 4355). This conclusion is in line with Deonna and Teroni (see 2012, 26), who argue that, even for those emotions that are the most suitable instances of affect programs (e.g., fear), it is questionable that they are in principle disconnected from the content of higher cognitive capacities (see also Vance 2004). What is important to notice for our purposes is that not every automatic behavior turns out to be cognitively penetrable, but only those that are (successfully) shaped by minded practice and learning (Fridland 2015). Thus, emotions can be at the same time automatic in some respect (e.g., fast and not guided by deliberative processes) and cognitively penetrable; and their meaningful connection with higher cognitive process (i.e., their cognitive penetrability) increases by training them within the practice of skill acquisition.⁴

From impulsive to spontaneous

Our second claim is that skillful emotions occur spontaneously, rather than impulsively. The distinction between impulsivity and spontaneousness has recently been articulated (Douskos 2017) to discriminate different kinds of automaticity. Its original use is to identify habits and skills as different kinds of dispositions, insofar as they exhibit different varieties of automaticity after a history of practice and repetition, and to criticize the view that assimilates and overlaps the two dispositions (e.g., Dreyfus and Dreyfus 1986; Pollard 2008).

This distinction, however, if conceived as a *continuum* rather than as an opposition, fruitfully applies to the emotions and allows us to weaken another requirement of affect programs, namely, the alleged link between automaticity and the dependence on a well-defined class of stimuli. Emotions, in a manner similar to both habits and skills, exhibit automaticity to the extent that they rule out deliberation. But unlike habits, which are when the agent regularly responds to a given situation *in the same way*, emotions can be trained to resemble skills, to the effect that the agent experiencing them addresses a given situation by *paying attention to how* she is doing so. And while impulsivity, such as that displayed in habits, triggers the same emotional response in the face of a given class of stimuli, spontaneousness, embodied by skillful emotions, entails both an openness to a large variety of features, and a durable engagement to find the best way to feel in order to achieve a goal.

⁴ The higher cognitive capacities and the specific content that penetrate the emotions involved depend on the specific skill-acquisition process. As is plain, becoming an expert at chess or firefighting encompasses different cognitive capacities and different knowledge.

What makes a crucial difference for developing spontaneity out of impulsivity is the training of attention, conceived as goal-dependent sensitivity. Think about the attempt to train young children in feeling compassion and an empathetic concern for their classmates, both of which are crucial skillful emotions encompassed by the virtues of generosity and kindness. One thing, we claim, is – as the traditional skill model of virtue acquisition seems to suggest – to canalize impulsivity via the mechanical repetition of specific actions aimed at instilling a routine where kindness has arisen (e.g., always sharing their snacks; inviting to one’s house a kid who no one else will; etc.). Another thing, however, is allowing them to experience genuinely what it is like to be kind by pointing their attention towards salient features of the situation. This attention training might include helping them notice that one of their classmates is isolated from the rest of the group; encouraging them to imagine what it would be like to be like that kid; showing them examples of generous behavior outside the school environment, and of the grateful joy of that generosity’s beneficiaries; also, setting an example in the first place of what sharing with others means, and focusing their attention on how pleasurable it is for the giver, and so on. At some point of this process, we claim, a child acquires a skilled emotion of compassion, and an ability to notice when and where it is relevant, with an automaticity that does not require explicit deliberation but is also not blindly impulsive.

The operation of disentangling varieties of automaticity shows, therefore, that emotions, despite their typical absence of deliberation, can involve attention to very different degrees. Thus, when moving from impulsive to spontaneous, emotions can develop from fixed and stereotyped “affect programs” (highly stimulus dependent) to flexible affective phenomena capable of making specific, value-related cues in the environment salient (De Sousa 1987; Lance and Tanesini 2004).

3. Emotional practice and virtue acquisition

Emotions, like actions and reflective capacities, can be part of a broader enterprise of (self-) regulation—that is, virtue acquisition—aimed at adopting the right evaluative attitudes about the world. This, in our view, should not be conceived as a top-down regulation exerted by moral judgement on affective phenomena, but as a deeply integrated developmental path along which processes usually taken as unintelligent show their own way to increase sensitivity to values.

Our proposed account of skillful emotions, albeit only in outline, can help improve the description of emotion shaping in virtue acquisition and make sense of how emotional reactions gradually shift from a gross to a more subtle and refined manner of being automatic. This is one way, we argue, moral dispositions can become automatic despite preserving and even increasing their intelligence. Here we can only hint briefly at such implications, which amount to two main conceptual shifts a skill model

of virtue acquisition should undertake to overcome a dualistic view of the mind. These remarks should not be seen as practical strategies on how to improve training programs, but as conceptual adjustments on how to conceive the “trainee”—that is, the emotions themselves—so as to elaborate such strategies as a consequence.

First, as the proposal of skillful—that is, intelligent—emotions suggests, rather than being brought in line with judgements and deliberations issued by moral reasoning, emotions are intrinsically penetrable by higher-level cognitive capacities. Thus, the aim of a proper training program aimed at virtue-as-skill acquisition should not amount to “domesticating” emotional reactions by bringing them under the guidance of reasoning and deliberation, but rather to training their penetrability and openness to the overall set of cognitive activities of the agent (e.g., repeatedly drawing attention to meaningful connections among affective experiences, reflective evaluative judgements, and conduct). Secondly, our remarks on the spontaneousness, rather than impulsiveness, of skillful emotions should help reformulate an account of virtues as a spontaneous, second nature that encompasses skillful emotions made capable of attentiveness and sensitivity to a number of details through a long training period. In this respect, the idea of spontaneousness as a flexible and goal-oriented attitude suggests that to successfully exercise a skill, the suitable responses related to a certain goal need to be highly differentiated and open to innovation. The development of skillful emotions, then, requires that affective experience be taken as a source of feedback of a deliberate practice—that is, making one’s own emotions fine-grained and tailored responses to values (D’Arms 2013).

Let’s think about one of the exceptionally courageous firefighters who had to fight Notre Dame Cathedral’s devastating fire. In our view, she is someone whose fear has become skillful enough to successfully incorporate informational content provided by cognitive capacities and to remain open to innovative solutions in order to display the best solution the particular circumstances call for. The skillfulness of her fear plays a crucial role in appropriately addressing questions concerning the strategies to enact, the proper amount of risk to bear, and, considering other commitments, the right degree of exposure to danger.⁵ Also, it becomes part of her skillful fear to be able to respond to the situation in non-standardized ways and balance exposure to danger with stimuli offered by other features of the situation. It is important to notice that having trained a skilled emotion of fear does not necessarily mean that one feels a *reduced amount* of fear; rather, it means that a *proper degree*, i.e., that which is adaptive, of such emotion is activated depending on the context.

Conclusion

⁵ The case of firefighters’ decision-making is addressed by Stichter (2018) in terms of schemas and mental models.

To sum up, the process of virtue acquisition should be reformulated in terms of a specific training of emotions aimed at developing their inner skillfulness, rather than bringing them under the guidance of cold reasoning. This, we suspect, makes a strong case for the intelligence of moral habits, despite their automaticity.

References

- Annas, J. (1995). Virtue as a Skill, *International Journal of Philosophical Studies* 3(2), 227–243.
- Annas, J. (2011). *Intelligent Virtue*. Oxford: Oxford University Press.
- Bargh, J. A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 1, pp. 1–40). Hillsdale, NJ: Erlbaum.
- Barrett, L. F., Ochsner K. N, & Gross, J. J. (2007). On the Automaticity of Emotions. In Bargh, J. A. (Ed.), *Social Psychology and the Unconscious. The Automaticity of Higher Mental Processes* (pp. 173–2017). New York: Psychology Press.
- D’Arms, J. (2013). Value and the Regulation of Sentiments, *Philosophical Studies* 163, 3–13.
- De Caro, M., & Marraffa, M. (2015). Debunking the Pyramidal Mind: A Plea for Synergy Between Reason and Emotion, *The Journal of Comparative Neurology* 524(8), 1695–1698.
- De Caro, M., Vaccarezza, M.S., & Niccoli, A. (2018). Phronesis as ethical expertise: Naturalism of second nature and the unity of virtue, *Journal of Value Inquiry* 52(3), 287–305
- De Sousa, R., (1987). *The Rationality of Emotion*. Cambridge: MIT Press.
- De Oliveira-Souza, R., Moll, J., & Grafman, J. (2011). Emotion and social cognition: lessons from contemporary human neuroanatomy, *Emotion Review*, 3, 310–312.
- Deonna, J. A., & Teroni, F., (2012). *The Emotions. A Philosophical Introduction*. New York: Routledge.
- Douskos, C., (2017). The spontaneousness of skill and the impulsivity of habit, *Synthese*, 1-24.
- Dreyfus, H. & Dreyfus, S. (1986). *Mind Over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*. Oxford: Basil Blackwell.
- Dreyfus, H. & Dreyfus, S. (1991). Towards a Phenomenology of Ethical Expertise, *Human Studies* 14, 229–250.
- Fodor, J., (1983). *The Modularity of Mind*. Cambridge, MA: MIT Press.
- Fridland, E., (2015). Automatically Minded, *Synthese* 194, 4337–4363.
- Goldie, P., (2000). *The Emotions. A Philosophical Exploration*. New York: Oxford University Press.
- Griffiths, P. E., (1997). *What Emotions Really Are: The Problem of Psychological Categories*. Chicago: University of Chicago Press.
- Kristjánsson, K. (2018). *Virtuous Emotions*. New York: Oxford University Press.
- Kurth, C. (2018). Emotion, Deliberation, and the Skill Model of Virtuous Agency, *Mind & Language* 33(3), 1–19.

- Lance, M., & Tanesini, A., (2004). Emotion and Rationality. In Ezcurdia, M., Stainton, R., and Viger, S., (Eds.), *New Essays in the Philosophy of Mind and Language* (suppl. Vol. 30, pp. 275–295).
- Logan, G. D. (1985). Skill and automaticity: Relations, implications, and future directions. *Canadian Journal of Psychology*, 39, 367–386.
- Macpherson, F. (2012). Cognitive penetration of colour experience: Rethinking the issue in light of an indirect mechanism. *Philosophy and Phenomenological Research*, 84(1), 24–62.
- Moors, A., & De Houwer (2006). Automaticity: A Theoretical and Conceptual Analysis, *Psychological Bulletin* 132(2), 297–326.
- Okon-Singer, H., Hendler, T., Pessoa, L., & Shachman, A.J. (2015) The neurobiology of emotion–cognition interactions: fundamental questions and strategies for future research, *Frontiers in Human Neuroscience*, <https://doi.org/10.3389/fnhum.2015.00058>.
- Pessoa, L. (2008). On the relationship between emotion and cognition. *Nature Reviews Neuroscience* 9, 148–158.
- Pollard, B. (2003). Can Virtuous Actions be Both Habitual and Rational? *Ethical Theory and Moral Practice*, 6, 411–425.
- Pollard, B., (2008). *Habits in action*. Saarbrücken: Vdm Verlag Dr. Mueller.
- Prinz, J., (2004). *Gut Reactions: A Perceptual Theory of Emotions*. New York: Oxford University Press.
- Pylyshyn, Z. W., (2000). Is vision continuous with cognition? *Behavioral and Brain Sciences*, 22(3), 341–365.
- Sauer, H. (2012). Educated Intuitions. Automaticity and Rationality in Moral Judgment, *Philosophical Explorations* 15(3), 255–275.
- Sauer, H. (2017). *Moral Judgements as Educated Intuitions*. Cambridge, MA: MIT Press.
- Schneider, W., & Chein, J. (2003). Controlled & automatic processing: Behavior, theory, and biological mechanisms. *Cognitive Science*, 27, 525–559.
- Sherman, N. (1999). Character Development and Aristotelian Virtue. In D. Carr and J. Steutel (Eds.), *Virtue Ethics and Moral Education* (pp. 35–49). London: Routledge.
- Snow, N. (2006). Habitual Virtuous Action and Automaticity, *Ethical Theory and Moral Practice*, 9, 545–561.
- Stanley, J. (2011). *Know How*. Oxford: Oxford University Press.
- Stanley, J., & Williamson, T. (2001). Knowing How, *Journal of Philosophy* 98(8), 414–444.
- Stitcher, M. (2018). *The Skillfulness of Virtue: Improving our Moral and Epistemic Lives*. New York: Oxford University Press.

Vance, J., (2014). Emotion and the new epistemic challenge from cognitive penetrability, *Philosophical Studies* 169, 257–283.