

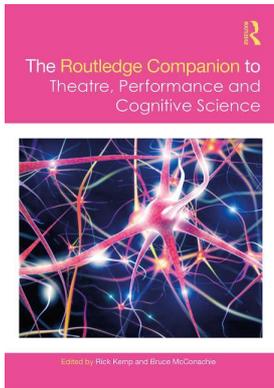
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### **Awareness Performing**

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# AWARENESS PERFORMING

## Practice to protocol

*Experience Bryon*

### Situated awareness

Situated Awareness (SA) is said to have been identified during World War I by Oswald Boelke to help predict the strategy and position of the enemy. The field of aviation fervently took it up first during the 1980s, resulting in a flurry of research and scholarship that laid much of the groundwork still in operation. Among those who currently use it are nuclear power plant operators, fire fighters, certain police units, nurses, medical emergency responders and military command personnel. It is employed by those who ‘must ascertain the critical features in widely varying situations to determine the best course of action’ since ‘Inaccurate or incomplete SA in these environments can lead to devastating loss of life’ (Endsley 1995, 32–33).

This chapter offers a summary of SA and surveys key contributions from cognitive science that problematise the status of an agent’s ‘mind’ in current SA theory. It then draws from performance theory to question the positioning of the agent/operator’s mind as a *custodian* of knowledge, introducing the notion of an *active middle field* whereby awareness occurs as *practice*. In the tradition of social science literature, through theory and hypothesis, this chapter identifies knowledge from performance practice, selecting transferable principles that could potentially be valuable for SA. A translational proposition drawing from the *Integrative Performance Practice* is shared as a way of exploring *modes* of awareness, as *practice*, towards the possibility of more effective SA.

SA has multiple definitions. Pew and Mavor, working within applications of SA to military simulations, because of its recognised linkage to effective combat decision-making in the tactical environment, offer a good rundown of many of the approaches, starting with a simple one: ‘the up-to-the-minute cognizance or awareness required to operate equipment, or maintain a system’ (Adams et al. 1995, 85). The definition of SA by one of the most prolific theorists on the subject, generally considered the most comprehensive, is as follows: ‘the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future’ (Endsley & Garland 2000; Endsley 1988, 1995, 1999, 2001). Another, taking into account the possibility of subjective ‘mental models of reality,’ says that SA can be viewed ‘as one important function mechanism of *reflective-orientational activity*, which provides a conscious and dynamic orientation in the situation’ (Bedny & Meister 1999).

Smith and Hancock, claiming a more ecological approach, describe SA ‘as adaptive externally directed consciousness. [it is] the invariant in the agent–environment system that generates the momentary knowledge and behaviour required to attain the goals specified by an arbiter of performance in the environment.’ Smith and Hancock stress that ‘SA is not in the agent but exists in the invariant interaction of the agent and his or her environment’ (1995, 145–6).

Stanton, Chambers and Piggott’s analysis of these three approaches is that Endsley describes an ‘information processing framework,’ Bedny and Meister a ‘reflective quality’ or an ‘activity approach’ and Smith, Hancock and Gilson offer an ‘embedded world view’ (Stanton et al. 2001). They argue that these three approaches evidence a dualistic framing, rendering SA either a *product* or a *process*, with the product approach as ‘the resultant state of situational awareness in the mind of the human operator’ and the process as ‘the acts of acquiring situational awareness by the human operator.’ Endsley embraces this product/process distinction and states that ‘situated assessment, as an active process of seeking information from the environment, is defined separately from situation awareness as the resultant of that process’ (2000, 16).

Adams, Tenny, Pew and Gill further elaborate on the product/process distinction, exploring the psychological components of SA. ‘[P]roduct refers to the state of awareness with respect to the information and knowledge. Whereas *process* refers to the various perceptual and cognitive activities involved in constructing, updating, and revising the state of awareness’ (1995, 88). This is important, because where *product* represents a ‘continually updated schema’ and *process* a ‘continuous sampling of the environment’ (Salmon et al. 2008), in both of these we get a distinct subject (agent/operator) – object (task/action) dualism. This dualism is problematic in that it often puts the onus of SA in the *mind* of the operating agent. Further, it often neglects to fully consider the *ways* in which the *practice(s)* of that agent/operator works across the agent/operator – task/action divide.

### SA failure

This chapter posits that the *ways* in which agents *practice* the *acts* of conditioning, training and executions of SA is important, since a compromised *practice* of awareness has the potential to adversely affect even the most strategically designed supporting protocols, plans and applications of technology.

In examining language around error types, one can see how many aspects of failure may be connected to the *way* one engages with SA. I have italicised the aspects of failure that can be attributed to *processual* elements and thus could also benefit from possible *practice(s)* that would enable and condition the agent towards more optimum performance of the processes of perception, comprehension and prediction.

Endsley’s ‘error taxonomy’ includes:

Level 1; **Failure to correctly perceive information:** data not available, data hard to discriminate or detect, *failure to monitor or observe data, misperception of data, and memory loss.*

Level 2; **Failure to correctly integrate or comprehend information:** *lack of or poor mental model, use of incorrect mental model, over-reliance on default values, and other.*

Level 3; **Failure to project future actions or state of the system:** *lack of, or poor mental model, over projection of current trends, and other.*

**Other general considerations:** *failure to maintain multiple goals and habitual schema.*

*(Endsley 1999, 268 emphasis added)*

SA failures include compromised or conflicted ‘shared mental models,’ ‘attentional narrowing,’ where information and tasks can be neglected (Endsley 1997, 272), ‘automaticity’ within the habitual schema, where people can ‘fall into the habit of executing a task in a habitual way, making them less receptive to incoming environmental cues where information that is outside the routinized sequence is not attended to’ (Endsley 2001, 15, 1997, 270), and data and technology overload. To understand the vocabularies used around this, a study on air traffic controllers illuminates the usage of the terminologies ‘If the person misread or misheard the information, the error was assigned to the “perception” category. If the person was distracted or not attentive, the error was assigned to the “attention” category. If the person could not recall, or confused, the information then the error was assigned to the “memory” category. Finally, if there was poor interpretation, poor understanding, poor judgement, poor reasoning, or poor planning then the error was assigned to “decision making”’ (Durso in Stanton et al. 2001, 12).

Crucially, what defines the agent/operator who is successful is a somewhat romantic notion of ‘the right stuff,’ which implies a ‘complete and natural adherence to task goals and to criteria for performance’ (Smith et al. 1995, 139):

To possess SA – to have the right stuff – the agent must have developed a level of *adaptive capability* sufficient to match the specification of task goals and the criteria for assessing performance variables.

(*ibid*, 139 emphasis added)

Typically, however, advice for training in SA often boils down to ‘how to employ a system to best achieve SA (when to look for what where), appropriate scan patterns, or techniques for making the most of limited information’ and supplements to traditional technology-oriented training ‘that concentrates mainly on the mechanics of how a system operates’ (Endsley 1999, 273).

While there are studies dedicated to making technology more user-friendly (Rahman 2012; Rahman et al. 2012), and studies towards helpful models such as PAYE (plan-as-you-execute) which aim to improve the OODA (observe-orient-decide-act) protocols necessary under conditions of a NTA (non-traditional adversaries) (Boyd, 1987 in Ntuen 2006), until we shift our understanding towards awareness as *active*, rather than as an object residing within an agent’s mind, we will have an incomplete picture of SA theory. Further, many of these tools fail to directly address the agent/operator’s aforementioned ‘adaptive capability.’

### Mind, knowledge and cognition in SA

Endsley asserts that ‘true situation awareness only exists in the mind of the human operator. Therefore, presenting a ton of data will do no good unless it is successfully transmitted, absorbed and assimilated in a timely manner by the human to form situation awareness’ (Endsley 2001, 4 emphasis added). This can bring up more questions than it answers, especially when one looks at how awareness *operates* in relation to *mind*. Croft et al. identify that Endsley’s account relies heavily on an operator’s ‘explicit conscious knowledge’ (2004, 82), and in doing so fails to account for the *implicit*. For them, implicit memory ‘is defined as the non-intentional, non-conscious retrieval of previously acquired information, and is demonstrated by performance of tasks that do not require conscious recollection of past experiences’ (2004, 84). Implicit learning ‘is implicit when we acquire new information without intending to do so, and in such a way that the resulting knowledge is difficult to express’ (Berry & Dienes in Croft

et al. 2004, 82). They successfully argue that if the aims of SA measurements are to assess what an operator knows and what knowledge is available to them in the act of complex tasks under unpredictable situations, then ‘future research efforts will need to concentrate on developing implicit techniques to supplement existing measures’ (Croft et al. 2004, 99).

Another cognition approach to the ‘mind’ problem draws attention to the relationships between selective attention and short-term memory (STM), sometimes referred to as working memory. This becomes particularly important in situations when prediction and anticipation are required. Banbury et al., in adopting a ‘cognitive streaming account of situated awareness’ (see Jones 1993; Jones et al. 1996), conclude that it is the *processing of information*, rather than the storage of information, that speaks to effectiveness, and further that skill level also changes things. ‘STM capacity was critical for novice pilots, while memory skill was important for expert pilots’ (Banbury et al. 2004, 119). When we take into account that much of the research around anticipation connects *pattern matching* with the unfolding experience, we get somewhere interesting. Exactly *how the practice* of pattern matching occurs, and what the ramifications for memory and action are, is still being explored; however, they agree that unconscious, or *implicit*, memory contributes to the operator’s overall knowledge (ibid 131) and that cognitive streaming includes a certain skill of *connecting* things through *threads* between what they call *pointers*. ‘Rehearsal is by the use of threads to trace back through the pointers and objects (i.e., the cognitive stream). By retracing the cognitive stream, the pointers between the objects are rehearsed and not the objects themselves’ (ibid 125).

And returning to the question of whether SA resides in the mind, the technology-led view, particularly prominent in defense domains, conversely proposes that ‘SA is imbued in the technology and displays somehow,’ suggesting that ‘SA is in the device, not the person’ (Stanton et al. 2010). Stanton and his colleagues posit that SA is an emergent property of a system. Drawing from Hutchins’ theory of distributed cognition (1995a, 1995b), they conclude that ‘viewing the system as a whole, it does not matter if humans or technology own this information, just that the right information is activated and passed to the right agent at the right time’ (Stanton et al. 2010, 34). Here, the agent can mean either a human and/or non-human actor.

In these examples we see a leaning towards embodied cognition, a research area that performance practice has been increasingly employing to explore the dynamics of knowledge, meaning and action (see: McConachie & Hart 2006; Kemp 2012; Shaughnessy 2012; Bryon et al. 2017).

Embodied approaches to cognition propose that ‘thinking and behavior are properties of the whole human organism, not the brain alone, and that body, brain and cognition are “situated” – engaged with the surrounding environment’ (Kemp 2017, 95). When the brain, body and world are viewed as interdependent and often even as constituting each other, the term ‘situated’ can be ‘used to draw attention to the fact that the body is embedded in and dynamically interacting with an environment’ (Shapiro 2010, 124). Varela, Thompson and Rosch, pioneers of the theory, emphasise ‘the growing conviction that cognition is not the representation of a pre-given world by a pre-given mind but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs’ (2017, 9). Andy Clark’s work on the notion of predictive processing suggests that [brains] like ours:

are predictive engines, constantly trying to guess at the structure and shape of incoming sensory array. Such brains are incessantly pro-active, restlessly seeking to generate the sensory data for themselves using the incoming signal (in a surprising inversion of much traditional wisdom) mostly as a means of checking and correcting their best top-down guessing.

(Clark 2016, 3)

Clark emphasises that this ‘involves learning to predict our own evolving sensory states – states that are responding both to the body-in-action and to the world’ (Clark 2016, xv). This leads to questions about *how* the *performance* of reception, perception, reflection and action *operates in practice*.

### Performance theory and practice

These questions are addressed by the analytic conceptual model of the *active aesthetic*, the key premise behind the Integrative Performance Practice (IPP) (Bryon 2014). IPP was developed to allow optimal ability while acting, singing/sounding and dancing/moving, providing one practice from which plural aesthetic outcomes could emerge simultaneously, without compromising the technical excellence of any one genre. IPP differs from many other performance practices in that its primary function is to minimise the double or triple tasking that occurs when working across techniques and disciplines. This could be useful for SA, as multi-tasking is disorienting, stressful and can compromise the effectiveness of discrete tasks. IPP is currently taught as part of performance curricula in schools/conservatoires throughout the UK, USA and Australia. It prioritises the practitioner (for the purposes of this translational proposition, the SA operator), and works with *awareness* in specific ways to best integrate chosen aspects of one’s technique, instrument, task and environment.

The analytic and conceptual framework of the *active aesthetic*, as currently employed in IPP and beyond, is used to measure and/or capture knowledge as it engages across disciplines (for examples see Campos 2013; Scott 2016; Moran 2017; Kaufman 2017; Bryon 2018). It proposes that knowledge, information and meaning are *active*, and as such, within a performance/event/operation, do not reside in a codification, plan or protocol (for SA) or text, choreography, blocking or score (for performance). Knowledge, information and meaning *occur in ways of doing* – in the *practice* of a practice. It is a matter of *manner* rather than of method. The *active aesthetic* offers a way to ‘witness or evaluate the *way of doing* in process, the qualities within the *activation of generating a process*’ (Bryon 2014, 61).

A tool for delineating a moment or event, to witness its *active aesthetic*, is the metaphor of a *middle field*, which helps to collapse the aforementioned subject (agent/operator) – object (task/action) dualism. The notion of the *middle field* posits that a performer/agent does not do performance, but rather does something (performing) from which the performer – subject – (agent/operator) and the performance object – (task/action) *emerge*. A dancer does not dance, a singer does not sing, a pilot does not fly, a soldier does not fight/protect, but rather they do things, are done onto and interact with things in fields of dancing, singing, flying, fighting/protecting, from which they as practitioner/operator and task/action emerge, often simultaneously. The status of the agent/operator in this sense aligns with cognitive neuroscience’s concept of enactivism.

The agent is embodied and dynamically-coupled to the world in which she is embedded; thus, agent, world and action are necessarily intricately interwoven, and the agent’s body, experience, action, and world shape the way in which she deals with her everyday pragmatic concerns. There is an inseparability of mind and world, and it is embodied practice rather than cognitive deliberation that marks the agent’s engagement with its world.

(Stuart 2008, 256)

This *middle field* is not linear and encompasses some things that are not of our bodies and some things that are. It also encompasses many aspects that are not in the realm of representation.

What lives within this *middle field* can include felt senses, highly technical physical patterns of learnt behaviour, muscles groups firing in exact ways, surprises, productive tensions, conscious/explicit and unconscious/implicit actions and knowledge, STM and long-term memory, the room, the floor, technologies, one's nervous system, one's history, the day of the week, muscle and also emotional memory...and so much else. It's there to help bracket occurrences within an *event*, be that an entire performance/operation or a single dance move, or step in weapon assemblage.

To think of *awareness* as a *practice*, we can consider how, rather than being a measurable object, it lives in *activation*. Here the agent/operator and/or task/action simultaneously emerge from this dynamic rather than serve as custodians of awareness. The 'right stuff' may just become accessible through carefully chosen *practices* of awareness derived from performance.

### Awareness as practice

Before applying 'technique' or 'skill sets' to texts, blocking, choreography or any pre-given representative sequence (which for the purposes of this application could be likened to a drill, plan or protocol), practitioners learn to engage in various *modes* of awareness as part of their conditioning towards skills training. In performance, these often operate parallel to performance technique and other operational skills, as *ways of doing*, the actions of tasks.

Awareness is a slippery word. It can mean modes or sites of consciousness and/or spheres of knowing, including perception awareness, motor awareness, awareness of action, mindfulness as awareness, pre-reflective awareness and qualities of states of being or feeling as an embodied self. In IPP awareness is active, and includes exteroceptive, proprioceptive and interoceptive sensory dynamics.

As expected from any practice called 'integrative,' there are crossovers to be found with other performance practices; however, as a comprehensive compare and contrast of performance practices is beyond the scope of this chapter, as are full descriptions of the many exercises which sit within the categories mentioned later, I will speak primarily from IPP to share specific *modes* of awareness that could aid in the enhancement of 'adaptive ability,' in addition to possibly decreasing the previously noted *failures* in SA such as 'attentional narrowing,' 'automaticity,' 'over-reliance on default values,' 'lack of, or poor mental models,' 'failure to maintain multiple goals and habitual schema' and 'compromised or conflicted shared mental models.'

### Physiology of awareness

Those who rely on SA often work in conditions of emergency, and with emergency comes stress and fear. Theories of stress observe that with stress comes a 'perceptual tunneling' and 'cognitive tunneling' (Ritter et al. 2017), along with 'perceptual distortions and biases and the inability to process symbolic information and alter[ed] motor abilities' (Rahman et al. 2012, 358). Although performers do not generally work in conditions of emergency, they do have in common with emergency workers that they need to be exacting under conditions of stress while multi-tasking and dealing with external and internal stimuli.

In IPP, practitioners condition their bodies to initiate *every* movement, task and breath from a very low point of centre, at the perineum, which resides at the bottom of the pelvic floor (Bryon 2014, 97–165). When done correctly, this supports an exacting engagement with the iliopsoas muscle system (psoas), which in turn allows the release of superfluous tensions and an economical use of the skeletal, muscular and fascial systems (Koch 1997).

Practitioners learn this in coordination with a three-part breathing practice that engages the perineum on the exhale and releases it on the inhale. The feeling is that of length, balance, poise and readiness for action. Time seems to slow down. After a few weeks of training, practitioners find that responses are faster and clearer, and memory of texts and blocking/choreography is more readily available, even when nervous (or in fear). The reason for this is that the perineal contraction in line with the three-part breath affects not only the physicality of the agent/performer but also their entire psychophysical-emotional system, including how they perceive and receive the environment. The psoas, the fight or flight centre of the body, directly connects to the parasympathetic and sympathetic nervous systems. The practice of perineal contraction is also found in yoga, called *moola bandha*; however, it differs slightly in IPP in that it is not a lock but rather a directional contraction upwards from the pelvic floor on the exhale. It is known to regulate nervous activity, 'lowering the breathing rate, heart rate, blood pressure and stabilizing the brain waves,' helping to stimulate 'the unconscious mind – so that suppressed mental energy is allowed to surface into conscious awareness' (Buddhananda 2000, 36–38). The practice of the three-part breath in line with a conditioning of the psoas system for agents of SA could help to minimise stress responses and compromises to reception, perception and decision-making. As it was specifically developed to work across disciplines, it does not compete but rather integrates across knowledge platforms and various physical conditionings. It is the primary supporting mechanism that makes all the following modes of awareness accessible.

### Agential awareness

In IPP, awareness is a *practice* rather than a 'state' as often articulated in theories of SA. Awareness is a dynamic from which all tasks are executed. IPP practitioners begin by distinguishing between thoughts, feelings and awareness, engaging in progressively challenging mental and physical exercises designed to reveal that while (agents) *have* feelings and *have* thoughts, they are *not* those thoughts or feelings. Those familiar with Buddhist teachings or 'mindfulness' practices will find the language familiar. However, in IPP, the goal is NOT peace, or therapy, but rather the harnessing of a productive tension supporting an exactitude of action.

In a practice of *witnessing* thoughts and feelings rather than judging, diagnosing, boxing or acting on them, practitioners render these less 'sticky' and less able to influence or hijack a task. O'Regan, Myin and Noë's articulation of the phenomenon of *grabbiness* correlates nicely: 'Grabbiness is the fact that sensory stimulation can grab your attention away from what you were previously doing' (2004). In IPP, counter to many defense and sports practices, thoughts and feelings are not seen as *interfering* or *blocking* a *focused* action. This departs from Green and Gallwey's oft-cited equation:  $P(\text{Performance}) = p(\text{potential}) - I(\text{interference})$  (1987, 23). Rather, interference is *witnessed* and integrated.

Montero's findings concur, revealing 'that in expert-level [activities] thinking is generally better than not thinking' (2011, 2012, 2015). With IPP, to come from *awareness* allows the *self* to know that one is thinking/feeling/sensing, and can allow the agent/operator *choices* regarding the role that certain mental processes might take in the act of executing a task while in the flow of doing.

Further, a marked distinction between *focus* and *awareness* is important. Focus, more aligned with hypervigilance and alertness, differs from awareness, which is more peripheral but also directed. Practitioners learn that if they *focus* on a left foot, for instance, it is directed, yes, but the harder one does it, the more proprioceptive and kinesthetic spheres tend to diminish, tensions arise, breathing shallows and attention narrows. In more challenging

tasks, feeling and thoughts are more likely to ‘stick.’ Drawing one’s *awareness* to an object (or even a task) allows ‘for an attending to that object while having access to the entire environment and psycho/physical-vocal-emotive self’ (Bryon 2014, 70).

In this way, an agent’s practice of being aware that they are aware is important, as is the execution of tasks *from* this awareness. Agent/performers in this way can *act* from a self-space that is non-verbal, inclusive, receptive and directed. From the cognition perspective, one might say this mode of awareness lives in the realm of *pre-reflectivity*.

I can, of course, reflect on and attend to my experience, I can make it the theme or object of my attention, but prior to reflecting on it, I wasn’t ‘mind- or self-blind’. The experience was already present to me, it was already something *for me*, and in that sense it counts as being *pre-reflectively* conscious.

(Gallagher & Zahavi 2008, 46 *emphasis added*)

Legrand points out, ‘Self-relative information is not information about the self, but information about the world relative to the self.’ Further, crucially for SA, at ‘the sensorimotor level, this self-relativity is given by the reciprocal modulation of perceptual afference and motor efference. This provides the basis for the functioning of the body schema’ (2008, 513). Afference refers to the ways our nervous system receives and senses, while efference refers to motor function and how we act on stimuli. Together, they create a system of sensations, decisions and reactions.

A practice of returning to this mode of agential awareness could help with such diagnosed SA ‘failures’ as ‘poor mental model,’ ‘failure to monitor or observe data’ and ‘misperceptions of data.’

### Agency and the task

In IPP, presence is determined in the act of doing. *Presence-ing* is non-trancelike; it is active, not passive; it is not fuzzy or pleasurable, nor team affirming and often not rewarding. It is distinct from an experience of *being in the flow*. There is no ‘getting it’ or working automatically.

Practitioners learn that there is no such thing as a good habit, but rather a doing of a doing *anew* each time. Musical scales, barre work or for SA repetitive exercises/drills are never executed by rote. A drill/exercise does not do a practitioner, but rather the practitioner engages in it, *from* awareness *with* awareness. This helps to avoid a tunnel vision, dissociative type of focus where a task can get hijacked by thoughts or feelings.

Practitioners observe that what one *actually* practices is what one *actually* gets good at, so if one practices ‘trying to do something,’ ‘blocking out,’ ‘serving a collective,’ ‘repeating’ or ‘trying not to do something,’ that is *exactly* what they will get good at. These activities are rarely the goal of the required task.

Like many performance trainings, IPP intersects with select Eastern meditative practices; however, IPP does not work towards achieving ‘states’ of presence, inner peace, acceptance or Zen, but rather towards establishing pathways of attending to chosen tasks.

IPP employs a modified version of the Vipassana Walking Meditation (Bryon 2014, 77). Evan Thompson, working from a combination of meditation, neurobiology and phenomenology, reveals the benefits of such a practice. In his description of attending to a task/target while *witnessing* other information, one can see how this might apply towards effective SA.

... there was less mental “clinging” or “sticking” to the first target, so that attention was open and ready for the second target, making it easier to detect. This reduction in mental clinging or stickiness was reflected in the EEG brain waves, which showed that fewer attentional processes were devoted to the first target after intensive meditation training, making more attentional processes available for the second target. Furthermore, the individuals who showed the largest decrease over time in the neural activity they required to detect the first target also showed the greatest improvement in detecting the second target. Thus, a more efficient neural response to the first target seems to facilitate detecting the second one.

(Thompson 2015, 53)

A practice of returning to this mode of *presence-ing*, or working from awareness in action, could help the agent/operator remain *adaptive* and at the same time more discerning of stimuli that they allow to influence a task.

### Awareness with others

In thinking about collective SA, returning to the notion of distributed cognition theory is helpful. Drawing once again from Hutchins’ seminal work on distributed cognition (1995a, 1995b), Salmon et al. propose that a Distributed Situation Awareness ‘assume[s] that collaborative systems possess cognitive properties (such as SA) that are not part of individual cognition. No single member has the overall SA, rather it is distributed around the system’ (2007, 413).

Orchestras, ensembles, choruses, companies, groups and troupes all engage in dynamics of awareness between selves and other. Recent enquiries into group dynamics and performance, specifically those of musicians, evoke terminology such as ‘we-agency,’ ‘plural self-awareness,’ ‘collective agency,’ ‘we intentionality’ and ‘ensemble cohesion,’ situating the phenomenon at the level of pre-reflexive embodiment (Høffding 2015; Schiavio & Høffding 2015; Salice et al. 2017).

Where this work resonates most with IPP is in the discourse around the individual/group – intentionality/behaviour dynamic. Once again, following the enactive approach, which considers ‘behaviour and intentions as two domains of the same embodied subjectivity...instantiating the self-regulative processes at the basis of the circular interplay with the environment (Chemero 2009), Schiavio and Høffding ask, ‘Is it possible to describe the musicians’ experience of playing together without positing fixed categories such as “goals,” “attention,” “mental states,” and “communication?”’ (2015, 381) With IPP, working through an *active aesthetic*, it is not only possible but imperative, and as such could offer new solutions to the difficulties around compromised or conflicted ‘shared mental models’ mentioned earlier with regard to SA. In IPP, awareness is both individual and collective simultaneously.

In IPP, since it was designed specifically to work across disciplines and skill sets, group work is specific in terms of its practices of awareness. Practitioners build incrementally from partners to groups *after* mastering the previously outlined modes of awareness. Group work in IPP expands the field of awareness; following the pre-reflexive awareness it moves beyond the self/body schema, while maintaining the integrity of *presence-ing* supported by the three-part breath with an exacting isolation of the psoas system as integral to the task. In a practice called ‘Meeting in the Middle,’ practitioners become aware of activities around and behind them, things out of sightlines, along with unplanned occurrences such as a missed step, a partner’s late entry or a falling set piece. It is particularly useful when it takes more than one performer/operator to accurately execute a task, such as a catch in mid-air, or a tricky entry

in a particular place in the score. The exercise involves ‘manipulating the field of attention in relation to *another*; exploring the *crossover of contact*; finding a point of Meeting in the Middle; and cultivating a common contact of awareness that includes other and self’ (Bryon 2014, 87).

Potentially useful for SA is that this practice is not about positive troupe or team building, but rather about engaging in a task with exactitude from agential awareness and in cooperation with others.

## Conclusion

Whether one is a nuclear power plant operator, fire fighter, police officer, nurse, medical emergency responder or a military commander, the *manners* or *ways* in which one engages with SA differ. Further, even when two operators are in the same vocation and using similar plans and protocols or helpful models, such as the aforementioned PAYE or OODA, there is also a difference.

As Endsley indicated, ‘situational awareness is influenced by task factors and individual factors,’ explaining ‘why two people faced with different task factors might arrive at different conclusions, as might people with different abilities, experience, and training’ (Stanton & Chambers 2001, 5). This individual factor was explored in this chapter as a *symptom of practice* rather than as an inherent quality in the agent/operator.

After surveying SA theory and exposing the dangers of an agent/operator – task/action divide, this chapter introduced more recent theories from a cognitive perspective to expand the notion of awareness, countering the idea that awareness *resides* in the mind. Awareness as a dynamic, living between and in relationship to the environment, technology, group and body, was explored. Through a combination of performance theory and enactivism, the agent/operator and task/action were re-considered as *emergent properties* of a *practice of awareness* rather than a linear progression of *one* derived from the *other*. Finally, four transferable principles from performance practice were offered as select modes of awareness: *physiology of awareness*, *agential awareness*, *agency and the task* and *awareness with others*.

IPP, like any performance practice, can hardly be summarised in so short a contribution. What I hope is that in this brief introduction of transferable principles, I have made a good case for the consideration of awareness as a *practice* to enhance SA, to empower and protect agent/operators who often work in environments of emergency and to minimise the types of failures identified through SA theory. Importantly, incorporating select practises from performance that correlate with the four modes of awareness discussed could offer complementary tools that in no way compete with or compromise existing techniques and models of SA, but could radically enhance them.

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