

Hermeneutic of performing knowledge

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As we confront the impact of new hermeneutic tools of computer mediation in the form of social media and semantic Webs, we reflect on the performance of knowledge in collaborative, distributed and shared environments, the ways performing practitioners such as artists, architects, scientists, anthropologists, designers, philosophers, and managers explore this performance in various contexts in making sense of our world. The performer, in an attempt to interpret the practice, ‘necessarily interrogates the boundary between possible and impossible, between the tacit and the objective, thereby both expanding the notion of what performing knowledge might mean and accessing something closer to what the practice offers.’ In a theatrical performance, human incarnation transforms into an active and engaged body, ‘opening and projecting the performance to the world’, in a visual splendour. A phenomenologist may say that this performance expands hermeneutic in ways in which reality can be present for people, constituting a relationship between humans and reality, on the basis of which reality can be present in specific ways. Here, interpretation is existentially embodied in perceiving human beings. For Tim Ingold (2013), *Performing Knowledge* is about Making in the sense of creating knowledge, building environments and transforming lives. Anthropology, archaeology, art, and architecture are all ways of making, and all are dedicated to exploring the conditions and potentials of human life. Ingold ties the four disciplines together in a way that has never been attempted before. In a radical departure from the conventional studies that treat art and architecture as compendia of objects for analysis,

Ingold (ibid.) proposes an anthropology and archaeology not of but with art and architecture. He advocates a way of thinking through making in which sentient practitioners and active materials continually answer to, or ‘correspond’ with, one another in the generation of form. Ethnographers see performing knowledge through the lens of the challenges and potentials of self-reflexivity in performance, suggesting that ‘in conceptual terms, it works towards thinking about the political capacities of performances and of ethnographies, as processes of witnessing and articulating testimonies, which are themselves informed by a politics of knowledge.’ At the *Performing Knowledge Project* (1984), *Performing Knowledge* is about the stories of people and the communities they inhabit. It is about exploring these stories, what they look like in line and colour, what they sound like with melody and chord, and how these stories help us make sense of the world we are involved in. Every person has his or her story to tell: every community, every family, every institution, every issue, every piece of ground, and every thing. When we remember the country of our birth, when we stand in the middle of a parking lot, and when we walk with an ageing parent, each possesses a history that provokes a tale, a tale that makes sense of the knowledge that inspires it. These stories are all around us; they are deep inside us as well. We hear these stories everyday. At the *BLUEorange Gallery* (Borusky et al. 2015), *Performing Knowledge* is seen through the lens of the *Body*, through live performance, photography, and video. In this performance, artists communicate an array of current issues that limit and confine the body. Each artist uses a body or their body to publicly exceed limitations and confinements inherent in culture, politics, or society at large. Seen through the prisms of organisational knowledge, communities of practice perform as social actors of knowledge

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sharing, construction, reconstruction, distribution, and negotiation of knowledge.

For epistemologists (Davenport and Hall 2002), knowledge performance is about exploring concepts of social or collective knowledge, for organisational knowledge, the performance is about the creation of organisational knowledge at a number of levels (the workgroup, the firm, the sector) for improving productivity, and for designers, the performance is about interactions with artifacts. Knowledge performance in these communities of practice seeks interplay of the tacit and explicit knowledges between the individual, collective, and the social. For hermeneutics, performance of knowledge lies in its praxis, in its benefits to society, the way it shapes our generalised attitude towards the world, the way it makes us be reflective of the human condition, in our ‘encounter of different ways of being human—as manager, technologist, consultant, or as researcher. It is thus an encounter of different ways of reasoning, and of the changeover from one realm of knowledge and truth to another’ (Klaus 2004). Just as ‘instruments enable scientists to perceive aspects of reality that could not be perceived without them, like brain activity, micro-organisms, or invisible forms of radiation emitted by stars’, knowledge and skills enable the practitioner to not only perform interpretations of reality but also perform judgements drawing upon the tacit dimension.

For the Pædagog, Ikuta (Gill 2015), learning the skill of Japanese traditional dance, “Waza” is like learning to catch “snowflakes falling down from the sky”. The notion of performing knowledge here is the performance of a special metaphorical language, “Craft language”, in the process of teaching a skill of Japanese traditional performance, “Waza”. What is of interest to Ikuta is to explore why the Craft language is more effective in inducing or provoke sensation in the learner’s body than a descriptive language, when the teacher wants to transmit “Kata” to the learner? Gill (ibid.) notes that Ikuta explores this by drawing on Hugh Petrie’s work on metaphor as being “comparative” and “interactive”. The interactive aspect of a metaphor provokes a certain physical sensation in the learner’s body. The teacher who already knows the similarity between the metaphor and the form, which is supposed to be mastered by the learner, seeks to help the learner imagine and discover the similarity between the metaphor and the form to be mastered by himself/herself. What is important in mastering the craft skill is to master how the learner holds out his hand. As soon as the learner can understand what the metaphorical expression means in practice, he can experience the same physical sensation as his teacher, in his own body, and can simultaneously grasp the meaning of “Katachi” as being real, and thereby master “Kata”. In Japanese, Kata and Katachi are two key stages in achieving Waza. “Katachi” is a physical form of action expressed by

a performer of a certain “Waza”. This may be decomposed into parts and described as a sequence of procedures. Kata, however, is considered crucial for attaining Waza, and is far from being a simple collection of parts of action; it is an artistic and personal expression that bears the meaning connected with a socio-historical factor of the world of a certain “Waza”. Kata is reached through the activity of imitating and repeating superficial “Katachi” with great pains. Ikuta describes craft language as intermediating, i.e., having the effect of encouraging the learner to activate his creative imagination. This is an indispensable factor for mastering “Kata”. Gill (ibid.) says that in attempting to practice an art or skill, we indwell it to the extent that it eventually comes to indwell us, even though we generally cannot say how this happens. In learning a new dance step, a new language, or how to think philosophically, there is no substitute for practice. Gill argues that it is not necessarily the case that any learner, whether novice or expert, who is given metaphorical suggestions, can activate his or her imagination. To be able to do this, the learner needs to already have implicit and explicit knowledge not only of “Katachi”, but also its socio-cultural background through committing himself to or indwelling in the world of a certain “Waza” by the time he receives such a metaphorical suggestion from his teacher. Without such knowledge, he can only imagine what the metaphorical statement means literally and will never be encouraged to activate his imaginative activity such as comparing the literal meaning with the form he is supposed to master, and he will stay in the state of “Mushu-fu”. Craft language works only when the learner has already been engaged in the activity of imitating “Katachi”, and indwelling inside the world of a certain “Waza”. To those who are outside the world or have not stored enough knowledge yet, craft language is meaningless or is just an awkward expression at best. From Ikuta’s exploration, we learn that in performing knowledge in Japanese traditional dance, “Waza” resides in the performance of the metaphor of craft languages as both a hermeneutic instrument of performance of “Waza” and a hermeneutic tool of mediation of mastering “Kata”, and also as intermediating language of creative imagination.

This interest in a hermeneutics of performing knowledge arises from a two-day conference on Performing Knowledge held in 2016 at Emmanuel College, Cambridge University, focusing on musical discussion and discovery. Performing musicians, ethnographers, and psychologists were brought together to explore performers’ interpretative processes and to share the ways of investigating musicians’ expert knowledge. The conference included two performances, a concert by Collegium Musicians led by Margaret Faultless and the other, a piano performance by Tom Begin. During Margaret Faultless’ stimulating performance, the audience experienced the coherence of collaboration,

relational interactivity, tacit communication between and in-between the musicians, and the conductor. Tom Beglin's piano performance was a feat of relational interaction and conversation between the player and the piano, between mind and body, hand and eye, and perception and emotion. Both these performances demonstrated the richness of the tacit dimension of performing knowledge in the form of the seamless flow of communication between and among the musicians and the audience, itself part of the performance. The conference contributions gave an insight into the celebration of hermeneutics of knowledge—the construction, reconstruction, interpretation, negotiation, and sharing of knowledge in collaborative performances, illuminating the relation between body and language, verbal and non-verbal communication in collaborative performance, skilled performance, and experience of knowing-how, knowing-that, and knowing-when, and the intrinsic relation between epistemology and practice.

Margaret Faultless (2016), in an open rehearsal workshop, explored how performing skill of orchestration creates a sonic and social instrumental community in which instrumentalists participate by performing different functions and roles throughout the course of a performance. This collaborative performance in an orchestral ensemble gives an insight into how the musical, social, and even political relationships differ when performing in a conductor-less orchestra; the sorts of decisions and impulses that spring from the musical notation; whether the performing material affects these thought processes; and how Enlightenment theories of polite conversation and salon etiquette might be read in and through orchestral performances. Sinder Gill (2016b) explores dialogue as improvised performance, in terms of moving with uncertainty and trust and handling doubt, allowing us to come to share, for example, a sense of what is a beautiful shade of colour or a graceful dance step. Performance here can be seen in terms of 'tacit knowing' (a personal act of knowing) by considering how sharing in the same experience in physical space facilitates us seeing as you see, hearing as you hear. It further explores the meditational structure ('comprehensive entity') of tacit knowing within dialogue, and in particular, rhythm. In a collaborative performance, the act of performing knowledge involves not only our 'own performance, but also both the performance of other persons and these persons themselves'. Discussions on 'skill' and 'knowledge', including those on tacit and explicit knowledge, have made the distinction between 'know-how' and 'know-that' (Ryle). However, anticipation and action and making a judgement are also temporal. Skilled performance, Gill (ibid.) argues, is also about 'knowing-when': it is relational. Skilled performance is a personal act of knowing in which we are our authentic selves, simultaneously mediating the experience of knowing-how, knowing-that, and knowing-when.

From reflections on 'Being in time together: joint action and tacit knowing' (Doffman 2016), we learn of the importance of performing knowledge for joint action in the moment and cultural traditions over time, in understanding how tacit knowledge of musical time is developed and communicated. Doffman says that the experience and feel of coordinated timing between players are a critical (perhaps the critical) component in the creation of rewarding musical performance for listeners and players alike. The recognition that the feel of time is vital in performance does not, however, seem to make it any easier to determine how it happens successfully, how it can be developed and the way in which it participates in the aesthetics of any particular music genre. He illustrates this difficulty through an apocryphal exchange between Louis Armstrong and a jazz fan. Armstrong's response to the relatively innocent question 'What is swing?' was a dry, 'If you have to ask, you'll never know.' Beyond the arcane world of jazz temporality, something of the same is apparent in the wider understanding of what counts as knowledge. He further notes that central debates in philosophy and cognition have been concerned with how and whether we can speak about what we know, with the nature of knowledge as objective and/or subjective by degrees, and with our knowing being amenable to codification of some kind.

On the limits of historical improvisation of performance knowledge, Jeremy Llewellyn (2016) noted that whilst the historical performance practice movement of the late twentieth century has been to re-connect the 'knower' and the 'known', 'historical improvisation' has gone further to create new music. It is interesting how digital technology in enabling the reconstruction of new music from existing recording may make us reflect on different types of performing knowledge that extend beyond the conventional remit of historically informed performance practice, and test the limits of historical improvisation. Drawing our attention to the notion of embodied knowledge of an intimate physical understanding of the instrument, questions were raised by other speakers as to how to establish and negotiate the affordances of the relatively unfamiliar instruments in performers' hands, the evidential status of the knowledge generated by the process, and its creative application. On recreating performing knowledge, we learnt from Kai Köpp (2016) that just as musical performance can never be fully understood through texts of music or language, so the digital reconstruction of early music from text cannot be fully understood without its being performed. This, however, requires the translation of the digital text into physical movement and sound. Kai Köpp further says that 'musical performance results from the 'mindful body's' interaction with the instrument, a translation process of listening with the body, fingerings, and other technical

aspects of performance (articulation, vertical precision, etc.)', requiring a 'performer–researcher with embodied knowledge of sound production with a given instrument', as well as practical knowledge of the past. Performing knowledge from such a musical 're-enactment' is also to do with preserving the aesthetics of an already forgotten performance style, thereby allowing us to get a deep insight into the art of performance.

On the reflection on the body in (early) music, we get an insight into the making of performing knowledge through exploring the process of assimilation of the gestural patterns derived from dance, speech, and acting into the body movements of a violinist. We also learn how researchers use workshops with dancers, singers, and actors to acquire a dance and gestural kinaesthetic vocabulary which they then attempt to apply in playing, putting the bow action into a context of—dance and gesture inspired—body movement. Furthermore, how rhythmical structure, melodic shapes, and harmonic relations are translated into physical gestures, and how actual sound-producing movements are induced by the gestural patterns derived from dance, speech, and acting. We learn how in collaborative performance, shift gestures (such as the movement towards or away from 'ready') are taken up by musicians as markers of epistemic certainty, both to validate and fail to validate particular individuals as sources of knowledge and knowing. The gestures occurring at these topic-shift points have particular relevance when musicians are making collaborative decisions and can be seen to be understood, by the interacting musicians themselves, as externalized embodied indications of musician stance-taking towards unfolding 'decision' processes. In these collaborative performances, musicians are deeply aware of where knowledge comes from as part of the rehearsal process and use their bodies, as well as talk, as important sources for both the knowledge itself and to mark its epistemic value. From the discussion on 'The body orchestral' (Cayenna Ponchoine-Bailey 2016), we gauge that in the flow of collaborative performance, there is little time for individuals to reflect on possible courses of action, but rather they must rely on their own tacit knowledge as well as that of the entire group to maintain ensemble coordination and convey a cohesive musical performance. She notes that limit of 'romance of leadership' of the conductor in orchestral performance and argues that rather than decreasing the reliance on embodied knowledge in the production of musical expression or the role of the body in co-performer communication, orchestral settings demand that musicians are able to respond quickly and instinctively to an ever-changing musical environment. In contrast to the highly organised appearance of orchestras in performance, in reality, orchestral musicians are negotiating a sea of competing influences while engaged in a semi-structured massed dialogue of sounds and bodies.

From the discussion on the Flow of performers experiences (Catherine Foxcroft 2016), we learn that performers find it harder to achieve Flow in ensemble performance than in solo performances due to additional performance variables, for example, intensity of ensemble Flow, and performance anxiety. It is further suggested that participants experience Flow when performing their parts, but not in-between movements. In collaborative performances, performers may not be not consciously aware of other performers' state of Flow while playing together. However, they are able to hear the underlying energy of the performance, and are thus able to unconsciously sense other performers' Flow state. Several differences between ensemble and solo Flow emerge, e.g., the comparatively lower intensity of ensemble Flow. It is suggested that ensemble performance has a unique set of musical criteria with which performers must engage to experience Flow. Commenting upon performers' interpretative decision-making as 'a primarily intuitive process, a matter of becoming intimate with the work through physical as well as mental activity', Sheila Guymer (2016) suggests that a significant aspect of performers' decision-making may be understood as a skillful use of analysis rather than simply intuitive. Rachel Stroud (2016) explores in what ways Beethoven's notation offers an insight into his bodily experiences of music, how it equally affects the minds and bodies of performers and readers: the very act of notating is thus reciprocally enriched by musical, social, and embodied experiences. Stroud challenges the tendency to treat Beethoven's markings as authoritatively prescriptive, conceiving of the notation not as a codification of the 'composer's intentions' but as a social artefact; a material object that prompts, and even depends upon, social interaction, even at its most explicitly 'anti social'.

To the Sitar maestro, Ravi Shankar (Fernando et al. 2012), performance of a recital on the sitar, for example playing 'an elaborate alap (meditative prelude) was a marvel of introspection—low, moaning, nuanced sustained phrases, gradually moving upward through the registers of the sitar, then easing, with all the time in the world, toward more rhythmic lines and finally the melody itself, insistent and triumphant.' In the performance, Shankar and his tabla player were aware of each other's performance during the recital; the sitar and tabla, imitating each other, as if they were almost fighting a musical duel. Here, we see not only performers embodying each other's performance, but their instruments also imitating each other's performance, both the sitar and tabla mediating as hermeneutic tools of performance. Whilst Western music, with its musical notation and complex harmonies, enables the bringing together of many voices or instruments in various forms, the focus of Indian classical music, featuring different scales and structures, is the individual instrumentalist or vocalist who elaborates a melodic theme, or raga. In the northern Indian

tradition, in which Shankar was schooled, the raga begins slowly, becomes interwoven with the rhythms of an accompanying tabla or drum, and then builds in complexity and speed to a climax, before falling away. Its subtle, evocative character depends much on the skill of the individual performer, who breathes life into the structure of the raga through his or her improvisations. Shankar's performance engages the audience in a relationship; the 'contact' stimulates an intense response from an audience as if Shankar was asking his audience 'to follow him with their feelings; they could think later.' At times, Shankar would create moving moments with his recital performances, involving the long solo raga, with the tabla quiet for once, as if he was probing the accumulated memories of an audience. As the music progresses, the soothing and exhilarating blends of contemplative raga form mesmerize the audience by the sounds of the sitar, tabla, and tanpura. However, what was unique about Shankar was the breadth of his interests, his willingness to experiment and innovate, and above all his enthusiasm and passion for making the music available to a broad audience in India, and the entire world. We can envision Shankar's performances crossing the musical boundaries, 'sometimes tight fusion of various forms of Eastern and Western music—folk, classical, and spiritual Indian; rock, jazz, and even big band swing. ... Shankar at the podium, arms flailing, index fingers dipping, and pointing, took it all to a victorious, symphonic, last-stomp halt.' Shankar acts as gentle facilitator between oriental and occidental music, as he gives hope in a troubled world for international music to lead the way for a peaceful world.

From Shankar's mesmerising sounds of the sitar, tabla, and tanpura, we proceed to an exploratory journey of a cosmic connection between music and architecture (Charles Jenks 2013): 'Greek temples designed on proportional principles reveal not only supreme beauty but 'the music of the heavenly spheres'—either God or nature'. The Greek temple epitomised musical performance, 'where the perfect form of the stones literally reflected the sounds of dancing, of flute playing and singing in procession. These rhythms were conventionalised and named, so the architect could speak the dimensions.' Jenks notes the extraordinary parallels between architecture and music and the prevalence of architectural drawing and the musical notation as early as 1200. Just like Pérotin and his musicians were working out the harmonies of three and four melodies stacked above each other creating harmonic chords pleasing to the ear, architects were also stacking three or four levels (arcade, triforium, gallery, and clerestory) in equivalent chords pleasing to the eye. This analogy between these two arts is exhibited by the commonality in 'rhythm, harmony, emotional intensity, meaning, the reliance on stereotype (or genre) and the progression of chords (or the comparison to an architectural journey through space).' We are reminded

that it is not only the similarity of the musical and architectural performance of harmonies and proportions that we treasure, it also the contrast of emotional experience we can have from their performances. Although both the cathedrals and concert halls have a common goal of heightening emotions through music, and both have similar intent of 'extreme emotional arousal', Jenks asks us to visualise the contrast between architecture and music, in contemplating the entire meaning of Notre Dame as it is heavenward gesture. Whilst architecture invites us to see the relations between the stones set in a sequence, and between the void and the space as a whole, listening to the music invites us to rest on a seat and contemplate the space of the nave as it rushes to the altar. Again, on a musical level, Jenks invites us to enjoy a type of visual jazz, or mad pizzicato, or extreme blending of many tones (called chromaticism) of the Sauerbruch Hutton's museum in Munich. At the visual level, it is an optical illusion of pixellations; as the observer approaches and backs off the small tones converge into larger areas of identity, like the canvasses of Seurat and the Pointillists.

It is not only the contrast between music and architecture within a cultural tradition that delights us, it is also the contrast between the metaphorical experience that artists and architects may project from diverse cultural architectures. It is interesting to note how the famous architect Le Corbusier expressed this contrast in the performance of his architecture. The story goes that Le Corbusier in his youth experienced the Greek Parthenon in vivid metaphors of 'a brazen trumpet that proffers a strident blast. The entablature with a cruel rigidity breaks and terrorizes ... The Parthenon, terrible machine, pulverizes and dominates everything for miles around'. Jenks notes that Le Corbusier's violent metaphors, the temple blasting out like a 'brazen trumpet', or gun, epitomises his response to so much Greek architecture, while the opposite architectural emotion—serene, harmonious peacefulness—is evoked by the Taj Mahal, especially when seen at dawn through the morning mist.

Poets, writer, and lovers admire the architectural beauty of the Taj Mahal, its rhythmic combination of solids and voids, concave and convex and light shadow, where arches and domes further increase the aesthetic splendour. The colour combination of lush green scape reddish pathway and blue sky over it shows cases of the monument in ever-changing tints and moods. The dome is made of white marble, but the tomb is set against the plain across the river and it is this background that works its magic of colours that, through their reflection, change the view of the Taj. The colours change at different hours of the day and during different seasons. Like a jewel, the Taj sparkles in moonlight when the semi-precious stones inlaid into the white marble on the main mausoleum catch the glow of the moon. The Taj is pinkish in the morning, milky white

in the evening, and golden when the moon shines. These changes, it is said, depict different moods of a woman. Taj has a life of its own that leaps out of marble as a monument of love. For lovers, Taj Mahal is a living example of eternal love, as the English poet, Sir Edwin Arnold describes it as “Not a piece of architecture, as other buildings are, but the proud passion of an emperor’s love wrought in living stones.” However, for the neuroscientist, Ramachandran (2012), the beauty of Taj lies in the splendour of its internal resonance, harmony, and symmetry. This resonance of the perfect symmetry of the Taj lies in the emphasis of bilateral symmetry of the building along a central axis on which the main features are placed. The ground plan of the Taj Mahal is in perfect balance of composition, the octagonal tomb chamber in the centre encompassed by the portal halls, and the four corner rooms. The plan is repeated on the upper floor. The exterior of the tomb is square in plan, with chamfered corners. It is these unique aesthetic qualities of balance, symmetry, and harmonious blending of various elements that excites a performing practitioner like the neuroscientist, Ramachandran. He seeks to fathom why the brain, with its limited attention capacity, gets drawn to symmetry, and why does this symmetry become a source of creativity for artists and architects? Furthermore, how does the brain deal with the paradox that it is the objects of symmetry which attracts it, but it is asymmetry of large-scale scenes (e.g., arranging furniture, picture and other accessories in a room) which appeals to it? In addition, what make the brain see ‘multiple layers of metaphor and meaning’ in the visual art in the form of sandstone sculpture of a ‘celestial nymph who arches her back to gaze upward as if aspiring to God or heavens’. Ramachandran finds it intriguing that ‘the visual metaphor is probably understood by the right hemisphere’ of the brain long before the liberal minded left hemisphere. For him, art’s timeless appeal may be that it speaks an oneiric, right-hemispheric language that is unintelligible to the analytical left hemisphere. Furthermore, ‘art conveys nuances of meaning and subtleties of mood that can only be dimly conveyed through spoken language’, but great art sometimes succeeds in bridging the translation gap between the analytical left-brain and the more intuitive thinking right brain.

Although music has always been known as an art of time, and architecture has been claimed as the art of space, there is a divergence in experiencing them; music must be experienced in a linear sequence, while architecture is taken in three-dimensionally at a glance, or holistically. This initial divergence between music-time and architecture-space becomes all the greater, because they are experienced through wholly dissimilar organs; and also light waves versus sound waves. Jenks (op.cit) notes that at the neurological level, further parallels exist between time and space experience. He says that cognitive studies have

shown that we are a bit like bats, especially when moving in a dark environment with reflective surfaces. When sounds bounce off highly reverberant materials, we can ‘see through hearing’, especially if we clap our hands, a fact well known to the blind. As brain-scans have shown recently, music opens up the equivalent three-dimensional world inside our heads, the area of sight. Stereophonic systems exploit this aspect of hearing, as they open up a room to our imaginative projection—a picture of space or the plan of a building; or the structural layout of a symphony. This ‘space-music’ is overpowering. There is a deep connection between harmonic chords and architectural space. Musicians use an architectural metaphor to describe this journey—‘the tune has a sense of going home’. A typical symphony will drive an organisational idea or leading chord to its culmination, and composers refer to this overall time-structure as its ‘architecture.’

From reflections above, we get a glimpse of the way that artists, architects, and scientists attune their tools, be it a sonic instrument, a flute, piano, violin, sitar, gesture, metaphor, or notation, to the hermeneutic performance of their practice. At this stage, we wonder whether the above rich musical, social, and cultural praxis of performing knowledge would be impacted by the machine logic of the new hermeneutic tools of computer mediation, or would performing artists creatively mould these tools to attune them to the changing world while keeping true to the aesthetic richness and diversity of their art. Further questions arise on the hermeneutic relationships between the instrument and the performer: at what stage does the performance get embodied in the instrument and the instrument become performance in itself, and what happens to the interplay between the performers? Similar questions arise for symbolic instruments such as notation, gesture, story, or metaphor. Also how, when mediated by digital technology, may these hermeneutic tools shape a new interpenetration of presence in performance, especially when the presence is being increasingly experienced and shaped by the screen? And what impact would the fragmentary and reductionist nature of the digital technology have on interaction and performance? Furthermore, we wonder in what ways the intrinsic reductionist nature of new hermeneutic tools may impact on collaborative, distributed, and shared spaces of performing knowledge. Our philosopher authors in this volume make us aware of the implication of this reductionism. From Siby, we learn of the impact of the monistic and uniform levelling of big data on the manifold forms of human existence. Should this uniformity bring all beings into the framework of techno-calculation, establishing its own frame as the only possibility for human existence? What hope is there then for contingent possibility of transcending this framework of techno-developmental orthodoxy? When the strangeness of technological understanding of Being

and its calculative rationality are erased, Siby surmises, so also are erstwhile understandings of selfhood erased. He proposes that the notion of the contingency of meaning, as opposed to the monistic notion of truth, is central to the possibilities of post-techno-developmental politics. Paul Durbin (this volume) says that our cultures are social and historical constructs, but they can never be built up on a reductionist basis. Indeed, any reductionism that we may later employ as we advance in our studies will be, indeed must be, tainted by the way we were brought up. Albert Borgmann (this volume) alerts us of the illusion of the richness and diversity of the wilderness of cyberspace, the kind of world most distant physically and culturally from the environment of evolutionary adaptation. Furthermore, he warns us of the seemingly inescapable, continuous, and seductive culture of technology where you enter the cyber wilderness with reasonable moral concerns and end up following the logic of technology, forgetting that the calm and eloquent presence of persons and things in the mountains or at the table has a splendour all its own. Citing the example of modern medical radiology, Friis (this volume) gives an insight into how new professional subcultures, each with their own technology, interpretation, know-how, and jargon, impact upon the performance of collaboration between radiologists. For example, more experienced radiologists have begun to point to language and communication practices as a growing problem. Mark Coeckelbergh (this volume) notes that if philosophy of technology needs to engage with philosophy of language, it should be clear that there are roughly two options in relation to which it must position itself: either an analytic approach which usually assumes that language is an external object and instrument (there may be exceptions) or a Heideggerian approach which sees language as a ‘universal medium’ as opposed to language as ‘calculus’. Babette Babich (this volume) reminds us to transcend the straight jacket of the neutrality of technology, moving beyond the analytic to the reflective perspective on technology. This move needs to seek attunement with a particular praxis in connection with today’s philosophy of art. This, in turn, needs to retrieve the symbiosis of *techne* and *poiesis*, i.e., art. However, Babich (this volume) says that this move is not simply a matter of pronouncing technology as art, but rather values Heidegger’s reference to the Greek artist as a veritable technician of *poiesis*.

This poetic notion of the artist, for that matter of the creative performer, should make us ponder on how to shape the new hermeneutic tools to further enrich the reflexive interactivity among the artists, as well as between the artist and the audience, rather than limiting it to the reductive mediation by digital technology. In the end, performance is about raising awareness of the interconnectivity of everything and everyone. This interactive view of performing

knowledge perceives and experiences the world around us, and seeks to understand the nature of the interface between the physical, cultural, and our experiential worlds. The nature and practice of the interactivity here are fundamentally relational between, in-between, and across knowledges, experiences, and practices of contextual domains, and not transactional in the sense of ‘cause and effect’ calculation. This view shifts our attention from a technological fascination of hermeneutic tools to the evolving interactivity of art, technology, science, and society. In the midst of the fascination with mediation of digital technology, we should remember that ‘the more we give to the machine, the more impoverished we become’. For musicians in Newton’s time, the law of harmonic progression might have been conceived as having a sense of ‘gravity’, but for Le Corbusier, ‘it is feeling no reason that is the judge of harmonious forms, as we experience the architectural promenade in space-time.’ Just like the electric guitar becomes another explicit metaphor for the architect, the ‘open tuning’ turns into the ‘open space’ for the Open Society. This underlying dream of an Open Society and the open large communal space of both the philosopher Karl Popper and the 1960s student movement finds its embodiment in all Pritzker’s iconic architecture. In celebrating the richness, diversity, beauty, and harmonic ecstasy of the dream of the Open Society of harmony, we should also celebrate the way artists, musicians, architects, and scientists create hermeneutic relationships with the tools of their practice, and in doing so seek harmony and balance between and among often overlapping and conflicting social/cultural and spatial beings of the living.

In seeking a harmonious Open Society of performing knowledge, we turn to Shiva’s dance that brings to life the harmonious balance of overlapping and often conflicting performances of human actions, by valorising diversities whilst tempering the differences, conflicts, and turbulences arising from the converging and diverging relations of the individual and the collective. Shiva’s dance, exhibiting the balance between creation and destruction, presents a holistic conceptual model for creating collaborative environments for performing knowledge, promoting balance, coherence, and harmony to cope with the impact of technological turbulences on the self and society. Shiva’s dance, in the form the artist’s vision of *The Dancing Shiva*, or *Nataraja* (Ramachandran op.cit.), depicts the cosmic dance of Shiva, who creates, sustains, and destroys the Universe. In this dance performance, the centrifugal motions of Shiva’s arms and legs flailing in different directions and the way the tresses fly off his head symbolise the agitation and frenzy of cosmos. Yet, right in the midst of all this turbulence—is the calm spirit of Shiva, movement and energy on one hand, and eternal stability on the other. This sense of something eternal and stable (the Ultimate) is

conveyed by Shiva's slightly bent leg, which gives him balance and poise even in the midst of his frenzy, and partly by his serene, tranquil expression, which conveys a sense of timeliness. Shiva's dance thus symbolises a balance between reality and actuality, and between rationality and spirituality, in a world of diversity of interactions and turbulence of relations. The dance also symbolises how performing knowledge of collective wisdom can be brought to bear on creating cohabiting and stable environments in the midst of human turmoil and agitation. This symbolic dance can thus be seen to provide a conceptual framework and holistic model for seeking a balance between judgement and calculation perspectives of collective performance in the midst of this frenzy of technological inevitability of the Internet, virtual worlds, and cyber spaces. It is as if Shiva's dance mediates the turbulent relations of self and society back to the reality-actuality balance of our world. This balancing of relations in the creation of collective performance is what I call Shiva's dance of performing knowledge.

AI&Society warmly welcomes reflective contributions to the debate on performing knowledge in the pursuit of seeking harmonious interactivity of art, science, technology, and society. In pursuing this debate, we need to explore the ways in which performing art, music, and architecture may provide frameworks and models to mitigate the reductionist impact of digital technology. This special issue of the Journal on the 'Philosophy of Technological Culture' organised by our associate editor, Arun Tripathi, continues his tireless endeavours in leading and promoting dialogues on 'Expanding Hermeneutics'.

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