Chapter_12_HLSbook_Kune & Quillien

CO-CREATING FUTURES THROUGH VIRTUAL *'BAs'*

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Key Words
Learning Spaces, *BA*, *WA*, *MA*, *KATA*, *TOKORO*, Commons, knowledge co-creation, value co-creation, tacit versus explicit understanding, situational awareness, *the conversational nature of reality*

Axis
Space Design and Technology

Audience
Learning Space Designers, Educators, Trainers, Software Designers

ABSTRACT

Just four words: *BA*, *MA*, *WA*, *KATA*. Four Japanese words chosen for their power to defamiliarize – to invite us to reconsider what we thought of as known ground in a different way. The ground is problem exploration and innovation in small groups – now, of course, with Covid-19, taking place online, an environment with its own affordances and limitations. The four words – which revolve around experiencing *space*, *rhythm, harmony*, and *form* – lead us to forgo ordinary vocabulary about methodology and explore poetic language instead. This brings us afresh to such questions as: What is the actual nature of courageous collaboration? Where will we find the wellspring of co-created co-owned futures? How do we get there using virtual technologies? And what must we have in order to succeed?

CO-CREATING FUTURES THROUGH VIRTUAL *'BAs'*

*"The great tragedy of the 'to do list' is that it was written
by the person you were yesterday."*

David Whyte

FORCE MAJEURE

No need here to belabor Covid-19, our unanticipated present, our unclear next steps, or our difficult-to-imagine future. Nor do we need to dwell on the mad rush to move everything – learning, teaching, collaborating, solution-seeking, deciding, briefing, coaching, counseling, researching, sharing – online. Experimenting as we go, fumbling with tools not yet mastered, spending endless hours at the

screen, we often finish our day feeling drained. But here we are – so, let us, forthrightly, devise effective and convivial virtual environments for learning and innovating together.

Our Chosen Pursuit: Focused Solutioning in Small Groups

In this essay, we eschew any number of topics relevant to the general theme of hybrid learning spaces and drill down into the specific needs of small groups co-creating solutions to common challenges. The reader will be aware that we deal with the available video-conferencing tools, but not in context of either video-conferencing or mandatory learning. Our focus is collaborative solutioning, involving participants who take part on their own initiative. Participants need to develop a collective sense of each other and underlying issues, share information comfortably, request and offer clarification, and openly admit to not-knowing. In many cases, the willingness to speak frankly requires trust – which does not come automatically in physical spaces – so how can it be fostered online? Although we are intrigued with the necessity of dealing with multiple small groups working in parallel in larger-scale interventions, we do not attempt to address that level of complexity in this short essay.[1]

A Road Map for the Reader

Our query is pragmatic: how do we leverage distributed collective intelligence online, what are the elements which make encounters effective, and what are our technological requirements for the future? Throughout the essay, we do our utmost to maintain a sanguine but respectful eye on the wise legacy of Marshall McLuhan: *the medium is the message*. Digital tools enhance and extend some normal human powers but hinder others. We need more clarity about these advantages and handicaps since such distinctions point to design constraints and priorities for new software and platforms. To share our explorations:

First, as a heuristic, we propose *BA*, a Japanese concept for developing learning environments as shared contexts for knowledge-creation. An unfamiliar idea forces us to question our assumptions: for example, that individuals are the basic building blocks of groups, or that we think of *space* as an emptiness that gets filled in, or *place* as a context or stage. *BA* throws us into an unfamiliar ontology of mutual dependence, impermanence, and non-separation.

Second, we complement the basic component, *BA*, with sibling concepts *MA*, *WA*, and *KATA*.

Third, as we consider *KATA* (creative routines), we find ourselves engaged in yet another query – more philosophical in nature. We turn to the work of poet David Whyte to further consider how to ground and animate encounters in a virtual *BA*.

Fourth, we entertain a few initial thoughts about *BA* as both a context for knowledge creation and also a context for co-ownership of knowledge: an online Commons.

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[1] While there is some resonance with the field of CSCL (Computer Supported Collaborative Learning), after consulting recent research in this field we decided that it was not relevant enough to our topic to include a discussion of it in this essay.

Our conclusions are personal, idiosyncratic. We offer no hard science or rigorous experimentation. We conduct interviews, thought experiments, engage in desk research, reflect on our experiences, and then share with the readers what this journey has brought us.

THE JAPANESE CONCEPT OF *BA*: A DIFFERENT PERSPECTIVE

Overview

Clumsy translations of *BA* into English include: space, place, energy field, gestalt, realm, scene of a crime, occasion, situation, table area in a card game where the cards are laid out, party, session, and indications of an if/then supposition.[2] Ideograms for *BA* convey "upward pushing energy" where the starting point is the whole (not the parts). For our purposes here, we define *BA* as an *evolving energy field of interactions which houses understanding, knowledge, wisdom, and relationships.*

A *BA* anchors human engagement in time and space but unlike Western concepts of space and place *BA* cannot be divorced from human beings: it is something human beings come together to create. The *BA* is where everyone shares a sense of purpose. A *BA* resides, to some extent in-between participants, however, a *BA* can also be ghostly, as when people active in an early phase leave, and are replaced by others – and yet early phases continue to inform later phases. Integral to *BA* will be its appropriateness, affective qualities, and comfort, and some of these qualities will be emergent from the energy of the location that is chosen.

The concept of *BA* dates back to Zen philosophy and Japanese martial arts, but our immediate springboard is the 1998 article by Ikujiro Nonaka and Noboru Konno. Their interest was then (as ours now) in learning and knowledge co-creation. More specifically, they were wrestling with explicit versus tacit knowledge and their mutual enrichment.

Very briefly, Nonaka and Konno look at two axes of tension and then consider a spiraling growth of a *BA* through four stages.

The axes: One axis contrasts formal learning (explanation, reading, research) with informal (practice, empathy). The other axis looks at the mutual reinforcement of explicit and tacit information, on one end, and on the other, the quality/robustness of the energy field itself.[3]

The spiral of growth: First, the *Originating BA,* the initial energy field of early socialization, allows individuals to 'hang out' in the same context with their hunches, craft know-how, and wisdom – much of which is not easily explained. Storytelling conveys emotions, experiences, and personal models. Trust, appreciation, commitment, and a willingness to speak authentically come into existence. The individual is embraced by the group, transcending personal boundaries and perceptions

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[2] Compiled from diverse sources. See for example http://www.romajidesu.com/dictionary/meaning-of-ba.

[3] When attempting to translate this model to the virtual world, we should consider that the movement from tacit understanding to information living in stories, to explicit documentation to information which can be managed and manipulated by computer, and then re-assimilated into tacit understanding, is extraordinarily difficult and, as yet, not entirely mastered. However, it is the essence of this second axis and the spiraling complexity of knowledge within the growing *BA*.

– hence, non-separation and mutual dependence. Participants are synchronized. Tacit understandings become collective.

In the second stage, labeled the *Interacting BA*, the knowledge now embedded in the shared context can be distilled and communicated. Think of it, metaphorically, as salt being crystallized out of sea water.

CYBER BA
A PRESCIENT CONCEPT FROM 1998
The third phase, the Cyber Ba, is a "place of interaction in a virtual world instead of real space and time. . . Here, the combining of new explicit knowledge with existing information and knowledge generates and systematizes explicit knowledge throughout the organization. Cartesian logic dominates. The combination of explicit knowledge is most efficiently supported in collaborative environments utilizing information technology. The use of online networks, groupware, documentations, and databases has been growing rapidly over the last decade, enhancing this conversion process." (Nonaka and Konno 1998)

A third phase, *Cyber BA*, combines and compiles information, often asynchronistically and outside the originating group. Freshly leveraged knowledge (concepts, rules, best-practices) becomes available to be integrated back into the *BA*.

In a fourth turn in the spiral, *Exercising BA,* explicit knowledge is internalized back into tacit understanding. Learning now comes through continuous self-refinement. The new tacit understanding is put to work in the outer world, forcefully animating strategy and innovation.
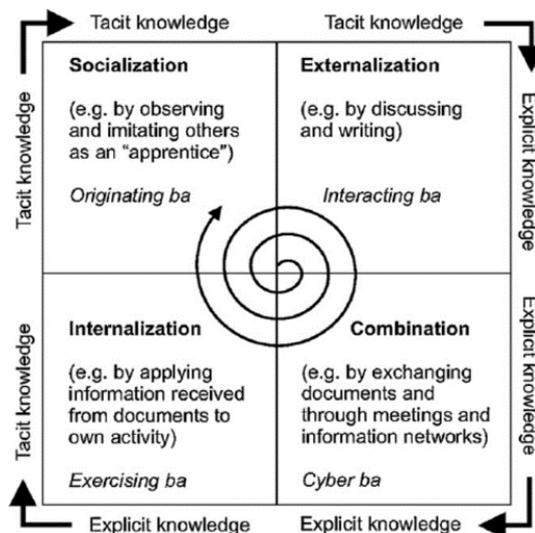
The model (known as SECI: Socialization, Externalization, Combination, Internalization) is, of course, a simplification. In reality, the stages overlap. Diagram from Samim.io

Examples of *BA* in the Physical World

An Aikido dojo. The dojo contains what you need, ready to hand, but nothing extraneous enters the space. Rituals of opening and closure frame the *BA*-in-action and reinforce shared values. The student experience is structured: from rolling out the mats, to entering the space, to meditation, to practice. In guiding the apprenticeship, instructors work with a dual vision: one eye to the group and collective requirements, the other eye on individuals and their different needs. Learning proceeds with each exercise adapted in response to the previous one. At all times, the students remain spatially aware of themselves, their immediate partner, and others on the mats. Learning (along the two axes described by Nonaka and Konno) involves a play between *tacit* (assimilation of why and how moves are made) and *explicit* (explanation, demonstration, and inquiry). Before and after the formal lesson, members socialize (a thickening of the *BA*).

Partial aspects of *BA* closer to Western habits include executive retreats where formal sessions are enriched by bar talk. The physical layout of a neighborhood pub – fireplace, cozy chairs, recognizable habits of regular customers – cues us into comfortable routines. Experienced workshop leaders intuitively know what it means to hold a space for a group, sometimes dynamically drawing a boundary, sometimes keeping a more tolerant eye on things; themselves maintaining the dual vision of group and individuals.

Design Constraints for a Virtual *BA*

Because we are exploring how to best provide virtual arenas for solution-seeking in small groups, we now ask: What design priorities does our journey, so far, suggest?

Situational Awareness. This is an abiding concern. As the name implies, Situational Awareness considers how an environment enables us to be aware of what is going on. In traditional workplaces, small groups problem-solve within the full context and complexity of suppliers, clients, colleagues, boss, deadlines, etc. In comfortable small group discussions, anyone can focus on the person speaking and, at the same time, also remain aware of the group as a whole. A good moderator will know, at all times, who is silent but assenting, who silent but dissenting, and who needs to be invited to speak up. This is to be human: we have heads that swivel, eyes that scan, the most subtle cueing of muscle tension tells us worlds about how our neighbor is feeling, our cocktail-party-auditory-filtering-system allows us to pick up and track important conversations among competing but insignificant ones.

During *Originating BA* trust and mutual understanding take root. Participants need to sense and take stock of each other: see faces, read body language, assess mood, hear voice tones and modulations, observe interactions. As the *BA* continues to integrate new understandings, the participants must continue to see and hear each other well.

Virtual platforms today, such as Zoom, MS Teams, Google Meet, or Skype, do not offer adequate Situational Awareness with the key affordance of simultaneous speaker and group view. Leaving aside more extravagant technologies such as CISCO Webex Boards, inhabitable robots, or adaptations of Second Life, what improvements can we make for better Situational Awareness using the free or affordable platforms available now?

For easy starters, we must realize that speaking credibly to a camera is not the same as chatting live. It means placing ourselves in front of a window or lamp so that our faces are gently illuminated without the harsh shadows produced by overhead lighting. On most desks, a laptop needs to be placed on a few fat books so that the camera is eye-level rather than up-the-speaker-nostril-view. We have choice of backdrop: our living room with armchair, favorite photograph, or a computer-generated screen of a spaceship. Whatever our choice, we convey a message about ourselves and our desired presence. Perhaps learning to habitually work with two screens, with one screen for speaker view and the second for participant lineup would help. In all cases, a network of separated participants is only as good as the weakest node. A participant with a mike but no camera, or a poor-quality audio, or inadequate bandwidth weakens the whole.

Zoom Meeting.
Extremely poor Situational Awareness. The serial line up of atomistic talking heads just doesn't cut muster. We should also consider the psychological effects of this 'gallery' view on some participants: everyone on stage at the same time, being stared at.

Image: Shutterstock

Here is some sense of being in the same room with others. The costs are high. What is it worth to 'sort of' feel that you are in the same room with your colleague on the other side of the world?

Image: Wikipedia.com

What might we do with avatars and Second Life for co-solutioning? (For a YouTube illustration see early adapter Grady Booch on *Agile Dimensions interviews IBM Grady Booch*. But does this improve Situational Awareness? No, it seems there is less here than with a talking head.

https://www.youtube.com/watch?v=HtPD77szFZk). Image from Wikipedia. com.

Spare. We need to judiciously decide what we absolutely require and do that extremely well, then forget the rest. We need spare but robust software and platforms – such as short and intuitively clear menus and links that work. For example, with guests for online meetings we want a flawless join function.

Calm Technology. Much of the reported fatigue of working online stems from overload caused by excessive demands made on the same sensory channel: being required to listen to two things at once, read two things at once, or attend to pop-up messages, e-mail alerts, chat messages, which all use the same channels.

We should consider more Calm Technology "*which informs but does not demand focus*" (Brown & Weiser 1996). To explain: Imagine you are driving. You hear the normal motor noises but pay them no mind – until a change in those noises suggests that something is amiss. Then you bring it front and center. We humans have evolved to handle both a continual scanning of peripheral information and emergencies. How can we design software and platforms that better exploit this ability? Light, for example, is informative and not does compete with listening or reading. Using light buttons to communicate a desire to intervene, or remaining time for a presentation, would be peripheral and less fatiguing than a chat box message.

Supportive Orchestrations. A keen eye for possible adaptions from effective physical *BAs* will serve us well. Three ideas used at Future Centers[4] are immediately available: First, hosting.[5] A personal welcome and initial framing of activities. Second, framing[6] with special entry experiences – films, animation, music, visuals – to establish another world with other expectations.[7] Third, immersive images.[8] with predictable effect, such as mountaintops to stimulate broad vision or fireplaces for intimate conversation, are chosen by the moderator to support process stages (forming, storming, norming, performing) or group processes (socializing, divergence, convergence or decision-making).

A Family of Platforms with Search Functions. A virtual *BA* (as it spirals between tacit and explicit information) will require spaces for synchronous group communication and also spaces for asynchronous tasks. There are efforts now to sew together possible platform cocktails – perhaps,

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[4] Future Centers are facilitated innovation-enabling workspaces allowing people to develop practical solutions to business, organizational or societal problems in co-located high tech/high touch environments (Dvir 2008).

[5] Skandia Future Center in Sweden emphasized hosting for creating the right frame for creative activity, allowing people to explore different and provocative futures. Hosting enhanced harmony, openness, and trust, as well as intellectual challenge and an entrepreneurial spirit (Kune 2008).

[6] On entering the U.K.'s Royal Mail Innovation Lab a simulated ride in a lift gives a powerful message about entering a world where nothing would be the same. At the Shipyard in the Netherlands, an animation film about leaving your normal work and assumptions behind to enter a place for creative collaboration sets the frame for the hours that follow (Kune 2008).

[7] Skandia Future Center used smell to frame the participant experience. The odor of tar greeted everyone entering the building, anchoring 'navigation' as a central concept in the sea-going journey of exploration they would undertake. Upstairs, the smell of freshly-baked cinnamon buns helped create a welcome-home comfort zone familiar to Swedish people (Edvinsson, 2002).

[8] LEF, a government future center in the Netherlands, bases its working method on insights from neuroscience and cognitive psychology. Visual images which have been tested in a fMRI and shown to have a predictable effect on how people act and interact in groups, can be projected on three or four walls of the workspace. (Maturana Parraguez 2018).

say, Zoom, plus Slack, plus Google Docs, or Facebook, plus a dedicated wiki.[9] How we best manage recording and search functions remains a critical question since this is one area where digital tools can significantly enhance human powers.

Readily available today (and sorely underutilized) is the option of making any document, e-mail string, chat box, or Slack exchange, a 'logical' website. These websites can be searched in three standard ways: a) find a chosen word, b) double quotes to find a specific phrasing, c) the google function of guessing what you might be interested in.[10] Google can also be used to index documents. A moderator or group can develop an ontology and metadata labels describing the kinds of things that will be discussed. This can also be done after the fact. Unfortunately, although the computer can greatly speed up finding needles in haystacks and organizing them, what it cannot do is think for us: it cannot identify what was important or innovative in a series of meetings.

Systemic Integration and Evaluation. A virtual *BA* must function within a larger hybrid environment of tangible and intangible systems. A recent study by the Future Center Alliance of Japan (Kibi 2019) concluded that inadequate innovation output was never due to lack of ideas, but to systems shortfalls where resources, people, culture, and incentives failed to dovetail. Design considerations for coordination, integration, and evaluation are still largely undeveloped.

SIBLING CONCEPTS OF *BA: MA, WA, KATA*

BA does not stand alone. Three other concepts come into play: all interacting with the participants and the participants with them and with the *BA*.

MA

Thirty spokes share the wheel's hub;
It is the center hole that makes it useful.

Shape clay into a vessel;
It is the space within that makes it useful.

Cut doors and windows for a room;
It is the holes which make it useful.

   Lao-tse, *Tao te Ching*, verse 11

MA has to do with the enabling rhythms of spacing, timing, and lighting and how they affect the relationship or distance between individuals, between objects and between individuals and objects. The 'empty' spaces between objects is *MA,* and these spaces are as informative as the objects themselves. The silence separating musical notes is *MA*, transition spaces and times are *MA*, repetitions, punctuation, in-betweens are all *MA*. *MA* can be about taking things out – being 'spare.' Appreciating an emptiness, full of promise and possibility. In architecture it is an aesthetic of arrangement. In Aikido, *MA* refers to the appropriate distance between partners, requiring constant adjustments by each practitioner – forward, backward, sideways – for the relationship to work.

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[9] Federated Wiki sites, which share pages circulating within a creative commons, may be a step in this direction. http://fed.wiki.org/view/federated-wiki. Accessed 11 October 2020.

[10] In an on-the-fly illustration of this, Richard Gabriel typed in 'that US idiot' and Google retrieved documents about Donald Trump.

We need *MA* for reconciliation: highly important for co-solutioning. MA is the *free zone that allows dissimilar things to exist* (McGrath 2018). This can be moments of quiet and awareness during which things settle and come together. It can be the appropriate alternating of explicit and tacit communication, of discovery and consolidation, of social and task. In online collaboration, with participants working from different countries and cultures, the thoughtful pause, talking less, and taking more time to digest what has already been said can be the most appropriate 'intervention.' This is the power of the space in-between.

Design Constraints for *MA*

MA can enable *BA* in physical, hybrid or virtual spaces, and we have annexed an example for each. Getting *MA* right isn't simple and we have annexed two stories: one success, one failure. Alas, for our central topic, we're in real trouble. Online tools for synchronous open-ended conversation are so utterly *MA* clunky that it becomes comedy. That sense of Alien Abduction as you, mid-sentence, mid-thought: *poof!* are evaporated from a break-out room and landed *poof!* into a plenary. That sad limp-wristed farewell wave at a screen as you *zap!* yourself into non-existence. Those the jerky non-sequiturs from a colleague who is desperately trying to both speak and acknowledge questions flashing at him from the chat box. That eye-rolling waste of time correcting microphones not on (or left on), working around links that don't link, and all that.[11]

WA

Most frequently translated as 'harmony' or 'peace', WA is the harmony born out of BA and MA. *WA* emphasizes the social and emotional, not the cognitive. *WA* refers to an awareness of interpersonal connections and a recognition that surrounding spaces sway and shape relationships (Lambe 2019). In the eateries and clubs which Japanese frequent for after work socializing, ruffled feathers from the day get ironed out, colleagues re-synchronize, harmony is consolidated. At a superficial level, W*A* is about comfortable relationships. At a deeper level, *WA* is a collective subjectivity around a shared sense of purpose.

Design Constraints for WA

One critical function of the *Originating BA* is to establish *WA*. This brings us back to the requirements for Situational Awareness. It also points to a requirement for side time and space to ease a bit of tension or enjoy a quiet private word with a colleague.

In the immediate future we had best adapt an attitude of "everything helps'' when it comes to building *WA* online.[12] Hosting will help. Posting photos and bios of group members will help. *MA* time

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[11] We do recognize that software developers have used platforms like Croquet SDK and Open Cobalt to create effective participatory virtual worlds for open-source collaborative decision-making, problem finding, and problem solving. See https://en.wikipedia.org/wiki/Croquet_Project) and https://en.wikipedia.org/wiki/Open_Cobalt.

[12] Most of the time, we choose face2face as better at promoting intimacy but the opposite can occasionally be true. Family therapist, José Giesen, reports that eliminating the institutional environment with its waiting room and clinical-ness can sometimes help. On Zoom, a client remains in the safety of home and distance.

allotted for *meet and greet* or smaller group breakout rooms will help. Organized email threads for pursuing conversations will help. *WA* greatly supports *BA*: it gives us the safety and positive regard we need to be genuine. It also relieves some of the pressure on technical requirements. The simple fact that we know and care about the people we see on the screen makes the deficiencies of the screen more bearable.

The speed and ease with which *WA* and *BA* get established can vary greatly. Slow if the start point is distance, ignorance, and chill. Fast if the participants are selected or self-selecting from a basis of shared interests and values.

KATA

KATA is sometimes translated as methodology, or process, or established patterns, or protocol, or the proper way to do things. Unlike protocols in our Western understanding, *KATA* implies an artful mastery of form, modifiable according to context and feedback. KATA has its roots in martial arts and is a wisdom for understanding the relationship between the body and movement and place as a pattern.[13] Nonaka refers to it as *creative routines* (Nonaka et al, 2008). In Aikido, *KATA* involves not just doing things in the right order but having so deeply assimilated the forms that understanding becomes unconscious fluid muscle memory. The Tea Ceremony master's movements are so internalized that he seems to be spontaneously making tea. *KATA* becomes the very wellspring from which appropriate, authentic, and beautiful gestures can be made.[14] *KATA* provides the structure, the skeleton which holds everything together.

Design Constraints for *KATA*

It is worth confessing to the reader that in earlier drafts, we had the usual problem-solving material in this section. It didn't fit. Our four Japanese terms called for a further search which led us to the work of David Whyte (2019). We propose the following as a nascent design guideline for *KATA*. These directives, germane to the *Originating BA* and the philosophy of mutual dependence and impermanence, remain useful throughout the entire process of co-solutioning – all the way through to prototyping.

✡ INVITATION. All conversations begin with a mindful invitation. The dialogue that ensues is between people who respond to that invitation.

✡ PERSEVERE. Things take time to ripen. Stay with an effort to harvest efforts.

✡ HEALTHY BA. Maintain the health of the *BA* – the container, the energy field, and its clarity of intentions. Harvest the presence.

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[13] Personal communication from Noboru Konno.

[14] The authors recognize the difference between *KATA*, protocol, and etiquette. *KATA* describes steps to follow in order to achieve mastery. Protocol is a system of rules that explain correct conduct and procedures to be followed in formal situations. Etiquette concerns the polite interpersonal behavior for performing them in a gracious and acceptable way.

✡ STOP DEAD-END CONVERSATIONS. Stop repetitive discussions which are not paving the way to a bigger future. People *do* know when conversations reiterating existing standpoints lead nowhere. These conversations are unlikely to get at significant underlying issues or unlock new potentialities.

✡ COMFORTABLY UNKNOWN. Develop a relationship with silence and the unknown (which requires good *MA*). Normally we are rewarded for having an answer. Satisficing (Simon, 1947) is our natural habit. We are quick to label things rather than leaving them in limbo for a while. Staying with the unknown requires *WA* robustness.

✡ TALK AT THE BOUNDARY. Place the conversation in the *only* place where things can actually happen. To explain: As you stand in the world with your expectations, the world fails to do what you would like it to do. Equally, the world has expectations of you and you fail to respond as anticipated. It is here, and only here, at the boundary of expected and actual, at the boundary of *you* and *not you,* that real conversations are possible. David Whyte calls this *the conversational nature of reality*. We tend to abstract ourselves from this boundary. Like turtles playing it ultra-safe, we prefer to pull in our heads, resort to pat scripts, sidestep genuine emotional pleas. The broader possible future that might happen, can only happen if we stay on the boundary – with our turtle heads out and on the line. The purpose of a *BA* is to house conversations at this boundary.

✡ NOT ACTING ALONE. Help members of the *BA* get past acting out the drama as if they were alone. No self or organization will survive a real conversation and keep its original identity. (Again, that's integral to *BA*.) The more we drop down into a deeper level of ourselves, the farther out on the horizon we can go – otherwise we keep the future reined in.

✡ LANGUAGE FOR EXPLORATION. Develop a language, vocabulary, and imagery large enough for the uncharted territory being explored.

✡ COURAGEOUS CONVERSATIONS. The conversations nobody wants but won't go away require courage. It makes for vulnerability. Authenticity requires being visible which is to be touchable and to be touchable means you can be hurt. We all know a myriad of ways of looking like we are showing up but not showing up. Everywhere we see people in positions of responsibility who – in calculating that they have no real skin in the game –block innovation that needs to come through their hands. For learners and innovators, moving the game forward means risk and trusting the relational space. A solid *WA* is pivotal to courageous conversations.

✡ BEAUTIFUL QUESTIONS. Develop a culture of what David Whyte calls *Beautiful Questions* which provoke, disturb, or suggest a different way of seeing. For example, we cannot be coerced into wholeheartedness or authenticity but sometimes a Beautiful Question invites us to belong to a bigger story and brings us forward. A Beautiful Question will take us both into and out of ourselves at the same time. For example: What is the generous thing for me to do in this situation? How can I come to this situation from a good place within myself? What does this moment want from me? A Beautiful Question will enlarge the context of the discussion. Beautiful Questions shape the *BA*, *MA, WA* and the way *KATA* is played out.

BA AS COMMONS

A Kernel of Deep Coherence

The knowledge-capitalism of professional imperialism subjugates people more imperceptibly than and as effectively as international finance or weaponry.
Ivan Illich

The *BA* – as we have seen – is an evolving/thickening whole. Participants find each other (*WA*), rhythms and differences are respected (*MA*), outcomes are co-produced (*BA*). It is all about co-creating; and perhaps also co-owning the fruits of the process. In other words, although co-ownership of intellectual capital is an obviously thorny realm (far beyond the scope of this essay), we do see the *BA* as a Commons.

Design Constraints for a *BA* as Commons

<u>KATA.</u> Intellectual property rights (IPR) are notoriously problematic. We would need *KATA*. Without agreed processes, participants can be tempted to withhold ideas in the hope of leveraging them for a later competitive advantage. Even when the express intention is to address societal challenges and the public good, withholding can lead to inadequate proposals, lack of breakthrough, and intangible variations on the 'Tragedy of the Commons.'

We do have sources of inspiration. From Elinor Ostrom's 1990 study of traditional commons (finite resources such as fishing or grazing grounds), we know the importance of clear definition of resources and boundaries, collective choice and decision-making, fast and fair conflict resolution with graduated sanctions, and the value of local autonomy and polycentric governance. From the work of the Creative Commons movement (Lessig, 1999) we recognize the desire for freely available resources, use and remix with clear attribution of sources, technology that makes openly licensed material easier to discover and use. All of which enables sharing knowledge and creativity (Lessig 2001).

<u>Technology.</u> We would need tooling beyond anything that we have talked about so far. For inspiration we turn to Ivan Illich (1973) on 'tools for conviviality'. He takes 'convivial' both in the everyday sense of friendly, enjoyable, lively, and in the sense of tools that give us a chance to enrich our environments with our own efforts and visions. These tools (like the telephone or e-mail) would not involve obligations or certifications but remain under our control. We could use these tools easily and as often or as seldom as we want – and our use would not restrain others from using the tool. Since we would be accomplishing our objectives in our own way, we would be expressing meaning through action. Such tools, proposes Illich, would enhance a "*graceful playfulness*" in our personal relations.

THOUGHT EXPERIMENT AND GENERAL OBSERVATIONS

The authors did several thought experiments (Annex 2), imagining the stages of the co-solutioning process within a digital *BA,* the effects of existing technology, and the promise of possible next-

generation technologies. From that exercise we see more clearly just how exacting – and deeply different – on-line technologies really are.

In Our Different Roles

First as participants. In the kinds of conversations necessary for a *BA* to succeed, we progress through stages of 'talking nice and talking tough' to reach a reflective dialogue. However, to move further – to reach a 'generative dialogue' resulting in co-creation – we must be fully present (Kahane 2007; Scharmer 2008). To be genuinely and humanly present in a virtual environment requires more than mastery of tools. It is a fundamentally different endeavor, neither simple nor trivial.[15]

Second, as moderators and designers, we must assume greater responsibility for integrity and structure. In physical environments, we often opt for as much participant self-organization as possible and facilitation with a very light hand. However, when we work online, with the handicaps of weaker Situational Awareness and the absence of fluidity, normal feedback, and subtle cueing, our old approaches fail us. Different skills must come to the fore. Meta-interventions – hosting, holding the space, structuring reflective space, assuring documentation – must keep the process on track. Micro-interventions, mostly in the form of *KATA* yet to be developed, are necessary for turn-taking, techniques such as fish bowl, disruptive use of the chat function, dovetailing efforts, summarizing.

Co-creating futures means imagining complexly and facilitating through a mindful balance of consistency and surprise. A powerful metaphor or image is more powerful when woven throughout the process, but also, the process benefits from the unexpected twist, play, joke, or different perspective. Prototyping within virtual *BAs* needs to be completely thought through or we fall into the trap of designing what the designers think users need rather than finding out what is actually called for.[16] And, as facilitators, we are not yet clear on what convivial spaces and tools actually entail.

Third, as community leaders, we must take on increased responsibility for infrastructure, be it technical, such as bandwidth; or cultural, such as codes of conduct for intellectual property and privacy.[17]

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[15] The popularity of video games, and especially massively multiplayer online games**,** show that people do have the ability to transfer their sense of self into an avatar on the screen, collaborating with other players physically far away to achieve mutual goals. Unfortunately, this is rarely achieved outside of a gaming setting. The best games do have viable stepping-stones for addressing issues of *BA*, *WA*, and *MA*, situational awareness and calm technologies. *KATA* also plays a big role in gaming, but not as part of the game design; it emerges over time, and is assimilated by new players in a manner akin to enculturation. [*Adapted from comments by David Lomas and Dave West*]

[16] Here too, we find the tail wagging the dog. All too often, online instructors and the conveners of online meetings try to use the platform tools by force-fitting the information into an existing platform and allowing the platform to dictate how the output could be 'interactive' (adapted from comments by Lyn deMartin and David Lomas).

[17] Issues of diversity are important here. Whether one is examining diversity between genders or among generations, exploring racial or regional differences, issues of interpreting verbal and non-verbal messages through the multiple lenses of languages, histories, religions, values, languages, image, ideals, and accepted ways of behaving, dealing with diversity in the virtual *BA* will be more complicated than in the physical world (adapted from comments by Lyn deMartin).

Purpose and the Nature of Emergence

Each *BA* emerges around a specific shared purpose. Purpose must, therefore, be the motor which drives the spirit, style, and uniqueness of each *BA*. For example, only purpose can determine what is a Beautiful Question. We really haven't looked at how purpose animates a *BA*. That would require several in-depth case studies – say, one *BA* concerned with conflict resolution, one with family therapy, and another for addressing climate change issues.

"Wanderer, your footsteps are the road, and nothing more; wanderer, there is no road, the road is made by walking. By walking one makes the road, and upon glancing behind one sees the path that never will be trod again.

Antonio Machado, *Campos de Castilla*

That said, as purpose, understanding and solutions emerge, it is also now more evident to us that this emergence truly happens only as a 'conversation' at the boundary. As we move towards a wise and grounded future we will begin with one foot in the mire of *now* and one eye on the horizon. It is here that we will discover our potential selves, the potential other, and the potential future. We cannot, à la Peter Pan, blithely escape through a window into a virtual future, leaving the present behind. And the path is made, of course, by walking.

Technology

As for technology, two fundamental design constraints will require game changing innovations as yet to be invented. First, as already identified, Situational Awareness. Second, the subtle cueing and fluidity necessary for self-organization, which we saw clearly only with the thought experiment. Self-organization in the co-solutioning phases is always the foundation for ownership of results and implementation later, hence its importance.

In the short term, we can focus on what we can already do more effectively now: compose more interesting small groups from all walks of life and geographies; and really use the record and search functions to analyze work-in-progress for overlooked key ideas, *ah-ha* moments, turning points in group awareness, group-think, and other relevant issues that are more easily identified with these technologies.

We can also communicate to more technologically savvy colleagues what we see as improvements that may not be terribly difficult. Would it not be simple enough to compile libraries of music clips and images to support group processes (forming, storming, norming), or group functions (diverging, converging, deciding), or activity protocols (listen & reflect, suspend judgement, seek clarification, signal your assigned role (e.g. De Bono's *Six Thinking Hats* (1985)). We could have images of metaphorical avatars, for example animals: a rabbit timid but fast, an elephant slow but powerful, a weasel sneaky but clever. Could our colleagues build us a system of algorithms for collecting, clustering, labelling (and visualizing) ideas that we could organize according to group-generated meta-labels?

Perhaps less simple but still feasible would be processes to quickly transcribe and package recorded sessions along with any accompanying visuals or documentation so that a group could proceed to a next phase with fast turnaround. This would greatly support activities such as SWOT analysis or question framing. Could our colleagues build us an environment for taking advantage of the non-linear nature of virtual *BA*, in which participants from all ages and all walks of life could participate easily? In other words, make the technology and the instructions for participants as intuitive as possible. And after that: better technical support for prototyping, systems integration and evaluation (although we assume that requires a longer time horizon).

According to conversations with computer scientist Richard Gabriel, we can expect better recording transcriptions, image search functions, incremental improvements on talking heads, Google glasses, and Second-life-style avatars. However, Gabriel warns us that although many of the obvious improvements on ordinary platforms would actually be technically trivial to deploy, today's industry is not all that interested. The industry is not into making gracefully playful tools for conviviality, nor in seriously rethinking platforms for online communities. Rather, the focus is on keeping users locked into products and minimum effort to stay ahead.

Author Takeaways

Shortly after we began this essay, we agreed that we should be selfish. We would write a piece that helped us, each in our own way, to answer our own questions. Our queries and motivations were different. Although it is somewhat atypical of co-authored essays, we will conclude separately, in our own voices.

Jenny Quillien. I am more bah-humbug about online collaboration than Hank. I surrendered only because of *force majeure*. In fact, I harbor an abiding sneaky suspicion of infeasibility. There is a fourth Japanese concept of space, *TOKORO* (McGrath 2018) which we did not discuss in the essay. I think it doesn't apply. *TOKORO* means actual physical location and the way of being present there; it also points to *genius loci*, i.e., the spirit of a place, the meeting and melding of all that makes for uniqueness and depth of place. If *BA*, *WA*, and *MA* can look inward, *TOKORO* places things and events within an even larger story in the way that if, – say, your office were in New York City – then there would also be something of the Big Apple in your office. Does having a backdrop poster of the Manhattan skyline on Zoom qualify as *TOKORO*? When Hank and I started this project we assumed a clear dichotomy between a physical and virtual *BA*. Now that boundary seems to warrant closer examination. But for me personally, the absence of *TOKORO* speaks of an upper threshold of possibilities. For me there is a difference in 'realness' between the actual Hamlet drama taking place in that dank dark Danish castle, *Hamlet* acted on stage in a London West End theater, *Hamlet* in Second Life with avatars, or talking heads reading lines on Zoom.

My dislike of online work has been essentially aesthetic. I was interested, therefore, in exploring the Japanese concepts because they are profoundly aesthetic in nature. For me, the next best place to look for improvements lies with *MA*. Finding the right rhythm between tacit to tacit, tacit to explicit, explicit to explicit, explicit back to tacit. Finding the beautiful *MA*s as a group lets go of the old and invites the new, as the group moves between noisy talk and quiet, or distinguishes between what they want off and on record. I'm curious about the appropriate *MA*s between technologies – online chat, e-mail, libraries, databases, drafts and final documents. I'm interested in

experimenting with collaborations where we front load *MA* zones of socializing. Can we speed up the building of *WA* and thereby improve the quality and tempo of the *BA* itself? Additionally, making the connection between the Japanese vocabulary and David Whyte's work was an aesthetic *aha!* moment.

All that said, my ultimate take-away is trading in my bah-humbugism for fascination. Most good *BA*s today are serendipitous rather than the result of competence. This is a real design problem. But for much of the foreseeable future, I think, we can profitably work with the Alexandrian method of misfit correction. You make your best guess at what you need (perhaps different *MA*, or a provocative Beautiful Question, or more calm technology), plug it in and then watch what doesn't work well. It is a bit like your dentist who puts a crown on a tooth. The best guess crown goes on, the dentist has you tap down on blue ink paper, and then scrapes away the excess enamel – the misfit – and does this repeatedly until the fit is just right. I'll end with a quote from Christopher Alexander's 1964 book: *Notes on a Synthesis of Form* "*. . . in a real design problem. . . We are searching for some kind of harmony (fit) between two intangibles: a form which we have not yet designed, and a context which we cannot properly describe.*"

Hank Kune. I'm a societal innovator. It's my calling. I've spent much of my working life with public and private organizations supporting groups interested in proactively co-creating the future. I think of myself as a sort of midwife. My expertise is in methodologies. For years I've worked with Futures Centers. From my experience, one of the biggest difficulties is getting groups to recognize and contend with underlying issues – the real problems beneath the surface ones. I'm curious and hopeful about the power of the material outlined here to help us do that more effectively. Further elucidating *the conversational nature of reality* into more detailed *KATA* would be a useful big step.

For much of what we suggest, there are no protocols. No one knows how to do it yet. But that should not stop the dreaming, designing, learning by doing. Once there were no protocols for putting a man in orbit around the earth. There were no protocols for putting 100 times the computing power that accomplished it in a smartphone that fits in your pocket. Going alone, or walking with thousands of others: It is exhilarating to be the first.

We all remember Henry Ford's quip about the world never asking for a car but only for a faster horse. Marshall McLuhan reminded us that, when faced with a new situation, we tend to march backwards into the future, looking through the rear-view mirror. But just imagine the fast prototyping – perhaps within 5 years – of user-friendly immersive environments; of synapse-sensitive systems responsive to subtle user signals in the individual's online workspace: psychomotor 'swiping', affective signals (pulse, heartrate) and cognitive cues (orchestrated keyword logic); of intuitive systems putting participants with resonating ideas together, and anticipating the possible consequences and implications of choice-point options; of special smart-pens communicating information about mood and emotion through pulse-rate and body temperature when touching the screen; of full-scale Back Office facilities for virtual *BA* functioning like Mission-control service centers.

Anyway, nobody wants to go back to how it was. Aside from financial and time-consuming costs of travel and its excessive carbon footprint, people have always complained about ineffective meetings, conferences, seminars, and workshops. Online collaboration is still in its infancy. There are

many paths it will take. But we're never too old to learn new tricks, master new technologies, discover we were wrong, change our minds.

Just as physical space, digital space needs to be designed and orchestrated to facilitate conversation, creativity, collaboration and learning. The more we are facilitated to think, imagine and work together in digital space, the more the *BA* becomes a house for innovation. In *The Poetics of Space*, Gaston Bachelard explores how we experience space through metaphors of the 'house' and images of containers of every kind. Since Jenny ended with a quote from Christopher Alexander, I will end with one from Gaston Bachelard (1958): "… *if I were asked to name the chief benefit of the house, I should say: the house shelters daydreaming, the house protects the dreamer, the house allows one to dream in peace. . . the house is one of the greatest powers of integration for the thoughts, memories and dreams of mankind.*" In just this way we must learn to unlock and experience the attic, cellar, closets, drawers, and jewelry boxes, corridors, and corners of the virtual BA.

ACKNOWLEDGEMENTS

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ANNEX 1: EXAMPLES & STORIES OF MA

MA in Physical Space. The Iba Lab at Keio University is one large simple room with generous windows. Around the periphery next to the windows are bean bag chairs where students work independently. In the middle is a large table. Small groups can form and dissolve quickly. Plenary sessions are held at the central table. *MA* is the in-between that allows for both synchronous working together and asynchronous independent work – and also the moving back and forth between the two modes. It is the *MA* which allows for Situational Awareness – contributing to both *WA* and *BA*.

<u>MA in Hybrid Space.</u> In Seats2Meet (The Netherlands and elsewhere) both members and incidental users can register online for an available 'seat' – a place at a table, lounge chair, or booth – and, at the same time, indicate what they are working on, whether they are looking to meet other people working on similar things, or are available to share ideas and knowledge about these topics. They come to work on their own projects, but can also check who else is registered in order to see if anyone they know – or have been hoping to meet – is also present. In this way a *BA* is created with a strong element of *MA* (the rhythms of physical/virtual, solo/collective, planned/serendipitous).

<u>MA in Virtual Space.</u> *MA* mastery does exist in some virtual technology. A few online learning providers such as Khan Academy have excelled at asynchronous learning modules, each lesson self-contained with exercises and immediate feedback. The material is arranged and weighed for ease of assimilation and skill building. The autonomous student sees when to proceed and when to repeat a lesson. The *MA* of the learning experience is delegated to the learner, who is certainly best placed to know what is comfortable. Game programmers are craft masters of *MA*: keep the game exciting, not too difficult but not too easy, always moving.

<u>A Story of Effective *BA, WA*, and *MA*.</u> Adapted from a conversation with Richard Gabriel, a small group co-solutions a shared challenge: the unification and codification of the programming language *LISP*.

This project took eight years, was successful, resulting in a dictionary and a set of 'grammar rules' for a dialect of LISP we named Common Lisp. I was the instigator, went around to the groups in various countries working in LISP, argued for the need to harmonize efforts, and got everyone on board. The purpose (of the BA) was lean. I had engaged with the experts, the Big Boys in the field. (Right people in the group – BA) We had respect for each other (WA). We all came to the table with a genuine interest and we all had professional pride – nobody wanted to look like an intellectual slob in front of their peers. As the project evolved more junior people joined but the Big Boys held their feet to the fire. Anybody who did anything careless was 'flamed' – so people really paid attention to the quality of their contributions (BA and WA). We had occasional live meetings but most of the work was done by e-mail exchange. There was something significant in the juxtaposition of these two modes (MA). The e-mails were deliberate: carefully, slowly, mindfully prepared, formal. They were the backbone and contrasted with more informal spontaneous conversations and live meetings (Nonaka's axes). There was a recognizable something, a culture, an energy field, that grew and permeated everything (BA).

This project happened in the 1980s, before online chat platforms. Such a platform would probably have changed the speed and rhythm (MA) and the way disagreements were handled (WA). However, the critical success factor was the quality of the MA alternating solo, deliberate, and authored contributions with group solutioning. Regardless of the level of technology, the concerns of BA, WA, MA are the same.

<u>A Story of Bad to Worse</u>. Jenny Quillien recalls faculty meetings.

The university had a main campus and smaller satellite campuses spread throughout the state. The structure itself engendered a number of classic organizational problems. A constant tug of war between dependence and autonomy, unfair allocation of resources, failure to take on board differences, status issues between main campus and satellites. All that sort of thing (poor BA and poor WA).

As everything went increasingly online, satellite faculty were allowed to digitally join the live main campus faculty meetings. For those who joined digitally, the view was from the back of the room. You could only see the back of heads so you guessed at identity and since they were speaking forward you couldn't always make out the words. If you signaled that you wanted to intervene and were recognized (rarely the case), the main campus faculty would turn around to look at the back of the room and see a face the size of a marble.

Nobody corrected the situation. It was a way to duck out. From our satellite perspective we had (per virtual session) been spared hours of driving plus a boring meeting. I would store up small tasks, like paying bills, to do while vaguely listening.

The digitalization of communication with satellite faculty was a further deterioration in MA which made the already poor WA and BA even worse. Situations that really called for focused solution seeking in small groups were allowed to fester. For example, student advisement. Student demographics in the satellites were different (students were older with a hodge-podge collection of previous classes taken elsewhere). Which courses from another school could a student transfer? Had requirements for graduation been met? Tenured main campus faculty didn't want to relinquish control over these decisions but also didn't want to do the work. It all devolved into academic guerilla warfare and pulling punches. Embarrassingly bad. Technological advances did not make up for poor organizational leadership.

ANNEX 2: THOUGHT EXPERIMENT

To integrate various aspects of our discussion we conducted thought experiments organized around the process stages for collaborative solution-seeking. Imagine a consortium forms to deal with wicked societal challenges. The consortium is created on the basis of the quadruple helix, with participants from government, business, NGOs and the academic world. The consortium convenor, an NGO called the Global Lab for Societal Innovation, brings together people with relevant knowledge, expertise, creativity, and commitment to tackle border-spanning challenges. Typically, there are 120 participants coming from diverse countries. They work online, in heterogeneous groups of 12 people – each group a mix of 4-Helix partners – addressing questions like these:

How can we support the behavioral shift from 'green consumers' to 'green citizens?'
How can we change the medical profession's focus on treating and curing to a more systemic focus on prevention and health-aware lifestyles?
How can we learn the right lessons from the Covid-19 pandemic for whatever new crises may come?

There are no set answers to these questions. The groups must seek, define, and prototype conceivable solutions: combining relevant knowledge and skills, expertise, and experience, through an open, facilitated learning-by-doing approach. The initial sessions are set to last three days, so there is enough time to spend in each step of a 9-step process, after which the most promising solutions will be tested and improved in iterative real-world contexts with direct and indirect stakeholders.[18]

The thought experiment is about the process in one of the groups; it does not address how to combine insights or critical feedback from the other groups. Nor does it address the stage of testing and improving in the real-world. The assumption is that this will be a combination of virtual and physical activities, a true hybrid situation involving a different ecology of requisite spaces for each case.

Stage One. Understanding who is in the 'room' and what they can contribute
Essentially a plenary session where people talk about themselves, their experiences, motivations. Participants collectively discover what others can personally and professionally contribute, get a sense of resources available and information that needs to be captured. A common energy field *(BA)* emerges from developing empathic understanding of each other. Activities remain essentially person to person and tacit to tacit information sharing. The moderator is hosting, framing, providing documentation and exercises (perhaps playful ones) to foster the forming of the collective. This is the *Originating BA* with socialization and birthing of a *WA*. My space becomes our space. *KATA* guidelines include HEALTHY *BA*, NOT ACTING ALONE, LANGUAGE FOR EXPLORATION.

Current Technology is limited in Situational Awareness so awareness of the other is narrow (talking heads with no context). Future technology might involve playful multiple avatars.

Stage Two. Exploring Purpose
Mostly plenary and more heavily guided. What are we going to do in three days? What are we going to do for the project duration? Why? The immediate purpose is anchored in a larger context. It is established that different purposes can co-exist. The moderator is exploring the energy field for common ground, striking differences, unanswered questions, and also managing complexity, divergence, convergence, and consensus. The moderator will need to initiate *MA* for turn-taking, speech and pause for reflection, or smaller group conversations. This is the *Interacting BA* with externalization of information, peer-to-peer, and tacit to explicit. KATA includes PERSEVERE, HEALTHY BA, COMFORTABLY UNKNOWN, TALK AT THE BOUNDARY, BEAUTIFUL QUESTIONS.

Current Technology does not adequately support Stage Two which is a difficult stage. We end up force fitting non-linear processes into linear and clumsy turn taking. Difficult for the group to develop their own norms and Netiquette and *KATA* for self-organization. Lack of self-organization hinders ownership of results. Skills in recording, reviewing and searching group

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[18] Similar 9-step processes, derived from different creative solution-seeking methodologies, have been used many times in physical face-to-face sessions like these. The present one is described in Rissola, Kune, and Martinez. 2017.

discussions for deeper exploitation of latent patterns are necessary. Agreement protocols for recording and exploitation are necessary. Future technologies would need to include faster turnaround to group members of their own production. Possibly see Organizational constellations (Hellinger Instituut 2020) or Active Mission Control Service Center.

Stage Three. Framing the Questions
Plenary, then subgroups around core questions in breakout rooms. Iterative process with subgroup interaction. Examining & understanding the 'challenge-as-given.' What is the deeper problem, question, context, challenge? Reframing challenge to discover new perspectives not adequately addressed in the past. Presentation & discussion. Iterative process. Choices – these are leading for the rest of the workshop. Changing perspectives and perceptions. Internalizing the challenge context to understand issues behind the issues. This is the *Interacting BA, Externalization,* Peer-to-peer, Tacit-to-explicit, Framing, *MA, WA, KATA* for making choices. *KATA* guidelines include PERSEVERE, LANGUAGE FOR EXPLORATION, COURAGEOUS CONVERSATIONS, DEAD-END CONVERSATIONS, BEAUTIFUL QUESTIONS.

Current Technology. Framing Questions is difficult, but not because of the technology – going 'beyond the obvious' needs effective facilitation/coaching. Current technology includes the use of recording, accessible visual documentation, drawing, creating images = visible rendering (not just words). Future Technology could include intuitive avatars, fast turnaround of recorded material with usable summaries, accessible documentation, logically indexable resource bank.

Stage Four. Searching for and exploring leverageable opportunities
Exploring the issues, searching for opportunities people have missed or not sufficiently exploited. Subgroups, then plenary. Presentation & discussion. The process is about exploring perspectives on opportunities resulting from reframed questions. Iterative search for emergent ontologies and meta-labels. *MA, Interacting BA, Externalization,* Peer-to-peer, Tacit-to-explicit, *KATA* guidelines include COMFORTABLY UNKNOWN, TALK AT THE BOUNDARY, LANGUAGE FOR EXPLORATION, BEAUTIFUL QUESTIONS. Breakout rooms alternating with plenary discussion.

Current technology includes Visual stimulation, Conceptual search, Fast visualization (image or drawing). Future technology would see accessible documentation, Active Mission Control Service Center organizing ideas and information for prototyping emerging ontologies.

Stage Five. Brainstorming for ideas
Brainstorming Protocols. Plenary, then subgroups, Prioritize ideas, Cluster ideas, Choices: most interesting, most practical, wildest. Future technologies around co-creating a source library of possible inspiration and building blocks for possible solutions. *KATA*, Immersive images, Interacting *BA*, Externalization, Peer-to-peer, Tacit-to-explicit, *KATA* guidelines include TALK AT THE BOUNDARY, COMFORTABLY UNKNOWN, BEAUTIFUL QUESTIONS.

Current technology includes immersive images as visual stimulation, Fast visualization, accessible material, Ontologies and meta-labels. Future technologies include accessible

documentation, Active Mission Control Service Center collecting, organizing, visualizing and feeding back ideas to the group.

<u>Stage Six. Combinatoric creativity: Enriching ideas</u>

Subgroups then plenary. Here we have *KATA* requirements for cross-fertilization through presentations & discussions with different groups. Building more robust ideas. Enriching ideas with insights from other groups. *KATA, MA*, Emergence. Here is *Interacting BA → Cyber BA, Externalization → Combination, Peer-to-peer → Group-to-group, Tacit-to-explicit → Explicit-to-explicit. KATA* guidelines include LANGUAGE FOR EXPLORATION, BEAUTIFUL QUESTIONS.

Current technology includes some gamification (SIM city, Farmville), Testing and refining ontologies and meta-labels. Future includes accessible documentation.

<u>Stage Seven: Making Choices</u>

Protocols. Setting criteria for decisions. Subgroups, then plenary. Unfolding *KATA* for making choices (decision-model to be determined by the group). Additional thickening of idea-clusters and creative combinations. Consensus on promising ideas for potential solutions to work on. *KATA, MA*, Emergence.

Current technology includes simulation as reference point: e.g. 'What would the world look like in 3-5-10 years?' Forecasting tools & algorithms. Future includes better Simulation, Mapping.

<u>Stage Eight: Prototypes: making and refining them</u>

Protocols for prototyping. Building initial prototypes using physical & digital attributes, images, video. Dry-run testing within the group. Dry-run testing with other groups within the larger workshop. Co-creating testable prototypes. Specifying target groups and methodology for testing/improving. Planning schedule for iterative testing and improvement. We see *KATA, WA, MA*, Emergence, *Interacting BA, Externalization,* Peer-to-peer, Tacit-to-explicit, *Cyber BA, Combination, Group-to-group, Explicit-to-explicit. KATA* guidelines include LANGUAGE FOR EXPLORATION, COURAGEOUS CONVERSATIONS, BEAUTIFUL QUESTIONS

This stage is extremely difficult to do with existing technology. Future might include Access to image-bank, online video environment for collaborative manipulation of icons, photos, toys, Lego-blocks.

<u>Stage Nine: Utilization: testing and improving prototypes in real-world situations</u>

Requiring complex systemic integration of diverse activities in hybrid environments. This involves diverse processes of *Combination* and *Internalization*, involving new sets of actors where - depending on the phase – both *Cyber BA* and *Exercising BA* are required. As such, it is too complicated for the scope of this essay.