SCHOLARS' CORNER

Kristine Marin Kawamura, PhD interviews Ikujiro Nonaka, PhD

Preface

A note to readers:

I am deeply honored and humbled to have had the opportunity to interview Dr Nonaka. He is truly my intellectual, philosophical, and inspirational hero. From the first time I studied his work during my PhD program at the Drucker School (Claremont Graduate University) to my preparation for this interview, Dr Nonaka's writing has always transported me into a different world – a space of profound knowledge, care, and insight, a place where rational thought and creativity coexist. For this interview, Dr Nonaka graciously took time out from his extensive writing and research commitments to answer a lengthy list of questions with respect, care, and honesty, weaving together philosophies with well-grounded research, stories with brilliant scholarship, the tacit with the explicit. Dr Nonaka is truly an inspiration to all scholars, practitioners, and human beings, as his life and work motivate us to find our purpose – our "way of life" or path of knowledge – and then rigorously and passionately implement this in our lives and work.

I also want to offer my sincerest gratitude and appreciation to Dr Fangqi Xu, the Founder and Director of the Institute for Creative Management and Innovation (Kinki University, Higashi-Osaka, Osaka, Japan) and Editor of the Kindai Management Review. Without him, this interview would not have been possible.

Background

Dr Ikujiro Nonaka is Professor Emeritus of Hitotsubashi University and was the first Distinguished Drucker Scholar in Residence at the Drucker-Ito Graduate School of Management and Drucker Institute, Claremont Graduate University (2007-2013). A world-renowned scholar, Dr Nonaka is widely known as the "guru" of knowledge-based management.

Dr Nonaka's main research interest has been to build a new theory of organizational knowledge creation, which has included the development of the SECI model of the knowledge-creating process; the phronesis (p1ractical wisdom) model of distributed, collective, idealistic, and pragmatic leadership; and a model of pragmatic strategy based on enduring wisdom, among other pioneering accomplishments. During his career, he has conducted comparative research on knowledge-creating processes in companies around the world and research on the characteristics of strategic and innovative activities in Japanese companies.

In 2008, the *Wall Street Journal* ranked Dr Nonaka among the top 20 most influential business thinkers. In spring 2002, he received double honors: he was awarded the Shijuhōshō, the Purple Ribbon Medal, by the Emperor of Japan and was elected a member of the Fellows Group of the Academy of Management in the USA, becoming the first Asian scholar among the Group's members. In autumn 2010, he received the Zuihōshō, the Order of the Sacred Treasure, Gold Rays with Neck Ribbon, from the Emperor of Japan for outstanding achievement, long service, and contributions in education. Nonaka won the 2007 Booz Allen Hamilton Strategy and Business Eminent

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Scholar in International Management Award at the Annual Conference of the Academy of Management. In 2013, he received the Thinkers50 Lifetime Achievement Award.

Dr Nonaka has published many books and contributed numerous articles to academic and management journals and newspapers in both Japanese and English. Selected books include *Managing Flow: A Process Theory of the Knowledge-based Firm*, Palgrave Macmillan, 2008 (with coauthors); *The Essence of Strategy* (in Japanese, Nihon Keizai Shimbun-sha), 2005 (with coauthors); *Hitotsubashi on Knowledge Management*, John Wiley & Sons, 2004 (edited with H. Takeuchi); *The Essence of Innovation,* (in Japanese, Nikkei BP-sha), 2004 (with a coauthor); *Managing Industrial Knowledge: Creation, Transfer and Utilization*, Sage Publications, 2001 (edited with D. Teece); *The Knowledge-Creating Company*, Oxford University Press, 1995 (with H. Takeuchi); *The US Marine Corps* (in Japanese, Chuokoron-sha), 1995; *Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*, Oxford University Press, 2000 (with coauthors); *A Theory of Organizational Knowledge Creation* (in Japanese, Nihon Keizai Shimbun-sha), 1990; *Strategic vs Evolutionary Management: A US-Japan Comparison of Strategy and Organization*, Amsterdam: North-Holland, 1985 (with coauthors); and *Self-innovation of Enterprise: Chaos and Creative Management* (in Japanese, Chuokoron-sha), 1986, (with coauthors).

A selected list of articles includes "Dynamic fractal organizations for promoting knowledge-based transformation – a new paradigm for organizational theory," *European Management Journal*, 14(3) 2014 (with coauthors); "The Wise Leader," *Harvard Business Review*, May 2011 (with Hirotaka Takeuchi); "The theory of the knowledge-creating firm: subjectivity, objectivity and synthesis," *Industrial and Corporate Change*, 14(3) 2005 (with R. Toyama); "Creating organizational order out of chaos: self-renewal in Japanese firms," *California Management Review*, Spring 1998; "The concept of "Ba": building a foundation for knowledge creation," *California Management Review*, 40(3) 1998 (with N. Konno); "Toward middle-up-down management: accelerating information creation," *Sloan Management Review*, Spring 1998; "A dynamic theory of organizational knowledge creation," *Organization Science*, 5(1) 1994; and "The knowledge-creating company," *Harvard Business Review*, 69(6) 1991.

The Knowledge-Creating Company and *Enabling Knowledge Creation* each received a best book of the year award in business and management (Association of American Publishers, Inc.) in 1996 and 2000, respectively. The Japanese version of the book *Strategic vs Evolutionary Management: a US-Japan Comparison of Strategy and Organization,* published in 1983, won the 1984 Book of the Year Award of the Academic Association of Organizational Science in Japan. The *Sloan Management Review* article on "Toward middle-up-down management: accelerating information creation" won the fourth annual Richard Beckhard Prize in 1988.

Dr Nonaka has held many positions as an academic. In the past, he has served as the Dean at the Graduate School of Knowledge Science of the Japan Advanced Institute of Science and Technology between 1997 and 2000; as a Professor at the National Defense Academy between 1979 and 1982; and as a Professor at the Department of Business Administration, Nanzan University between 1977 and 1979.

Dr Nonaka also has served as an Outside Director of leading companies; currently, he serves as an External Director of Mitsui & Co. Ltd and Trend Micro, Inc.

Dr Nonaka received his BA (Political Science) from Waseda University in 1958, an MBA from the University of California, Berkeley, in 1968, and a PhD in Business Administration from the University of California, Berkeley, in 1972.

Interview date: 12 March 2014

Summary
Dr Ikujiro Nonaka, widely known as the "guru" of knowledge-based management, highlights his life experiences and the motivation for his extensive work to build a new theory of organizational knowledge creation for sustainable innovation.

After defining the four modes of the knowledge creation process – the socialization, externalization, combination, and internalization (SECI) model of interaction and conversion of tacit knowledge and explicit knowledge – Dr Nonaka describes how firms can make use of the rapid, continuous spinning of the SECI spiral to build their synthesizing capability of knowledge and pursue both creativity and efficiency. Dr Nonaka shares his research journey, from exploring information processing and information creation to knowledge creation, reflecting on how Eastern and Western philosophies and traditions have informed his work and worldview. Meaningfully contemplating the work of Aristotle, Nishida, Whitehead, Lao Tzu and Confucius while referencing Western dualism, Dr Nonaka deeply explores the concepts of knowledge, the knowledge-creating process, and the knowledge-based firm, and he proposes knowledge creating as a "way of life" for all people. We need to balance subjectivity and objectivity, tacit and explicit knowledge, belief and reason, and art and science to both embrace and lead changes and to bring ethics into the management of knowledge-based firms for the realization of the common good of society.

Dr Nonaka also artfully paints the foundation for his phronesis (practical wisdom) model of distributed, collective, idealistic, and pragmatic leadership. He explains how and why the power of knowledge creation and sustainable innovation toward the common good are needed to enhance the well-being of persons, firms, industries, society, and the environment. Dr Nonaka's words and work are artful and scientific, complex and simple, reflective and compelling, and both philosophical and profoundly practical. His thoughts challenge the traditional views of organizations, management, and value-creating processes and inspire managers and researchers to integrate and learn from the philosophies and practices of all cultures and traditions.

Interview

In 2008, the *Wall Street Journal* identified you as one of the world's most influential business thinkers. Your contributions to management studies have been recognized by the Emperor of Japan and the Japanese government. In 2013, you received the Lifetime Achievement Award from Thinkers 50 in acknowledgment of the long-term impact of your work on management theory and practice. You are world renowned for creating the theories of organizational knowledge creation and the knowledge-creating firm and other pioneering research. It is a great honor to speak with you. Could you please share with us the motivations for your work?

Thank you so much for the recognition, and for giving me this opportunity to talk about myself and my research for *Cross-Cultural Management: An International Journal*.

As for your question on my motivations for work, my biggest motivation is curiosity. I became interested in finding out how management works when I was at Fuji Electric back in the 1960s. At the time, management theories were imported from the USA to Japan, so I first wanted to learn in the USA and then apply (what I learned) to Japanese companies. So I went to UC Berkeley for an MBA and continued on to the PhD program. This was the start of my academic life. Since then, I have been finding interesting themes. It is still a never-ending journey.

How have your life experiences – your Japanese heritage, your schooling and work, your changing external environment – served to influence, guide, or even change your scholarship?

I have been influenced quite a lot by the people I have met, by the environments I have been in, and by the experiences I have gone through.

One of the biggest experiences in my early days was being chased by an F6F Hellcat fighter plane during Second World War. The pilot was grinning while chasing me; that was the moment I decided to get revenge on the US someday, somehow.

After I graduated from Waseda University, I joined Fuji Electric. During my nine years there, I experienced various kinds of jobs: marketing, planning, HR, etc. This experience triggered me to learn management in the USA. As all the management theories and techniques originated in the USA at the time, I felt that Japan would lose again in the business arena. So I went to UC Berkeley, which happened to be the first business school that accepted me.

When I went to the USA for the MBA, all the theories and methodologies I read about intrigued and inspired me. My academic instructors were knowledgeable and insightful – I learned a lot from them. I happened to choose sociology as my second PhD major. This also helped me learn the methodology of constructing theory, which later became very useful to me as an academic. So when I returned to Japan in 1972 and took professorship at Nanzan University, I was an evangelist of USA management (theories and methodologies), especially the information-processing paradigm.

But in the mid-1970s, I joined a project team with Japanese colleagues Tadao Kagono, Akihiro Okumura, and Kiyonori Sakakibara to do a comparative experimental research project on the management of Japanese and US companies. While working on the project, we discussed a lot and drank a lot! But while we spent so much time together, I came to think that what was important in management was "creation" rather than "processing." Then, my concept changed to "information creation" to differentiate from the "information processing" paradigm proposed by H.A. Simon and other scholars of the Carnegie Mellon, aka Chicago, School.

Then in the early 1980s, I teamed up with Hirotaka Takeuchi, a Berkeley graduate, and Kenichi Imai, a Hitotsubashi colleague, to conduct research on new product development in innovative Japanese manufacturing companies that we were to present at a Harvard Business School colloquium for its seventy-fifth anniversary. From this research project, we came up with our monumental paper "The new new product development game," which was published in *Harvard Business Review* in 1986, and has been revived today as "agile scrum" in software development. We came to recognize the importance of "belief" in developing new products, which influenced our thinking on the concepts of "information processing," "information creation," and "knowledge creation." In 1991, I published the article "The knowledge-creating company" in *Harvard Business Review*, and in 1995, Hirotaka Takeuchi and I coauthored the book with the same title, which became the classic and fundamental book on knowledge-based management.

During the 1980s, I started research on the failure of the Japanese military during the Second World War. This research theme came about because my boss in the HR division of Fuji Electric suggested that I do research on failure, and that a case study specifically on the Japanese military organization would be very interesting. For this research, I started my professorship at the National Defense Academy of Japan in 1979. This research project lasted quite a long time, and it resulted in another monumental book, *The Essence of Failure*, published in 1991. From this project, my interest extended to the US Marine Corps, which, I have recently recognized, has similar moral values to those of Japanese *Bushidō* (*Bushidō* literally means "military scholar road" and represents the "way of samurai life").

My journey continues. I have been influenced by people and the environment, and I have created new knowledge through my interaction with them. As I recall it, my life itself has been a continuous spiral of the SECI process.

Let's talk about SECI. In *The Knowledge-Creating Company* and other writings, you explain the SECI model, which you describe as the knowledge-creating process. Could you highlight this for us?

In the modern world we are influenced by Western thinking, which originates in Plato, and its prejudiced view that only the purified, objective, and explicit may be considered "knowledge." For us to free ourselves from this limited viewpoint, we need to reset this perspective on knowledge and restore the balance between the competing dichotomies of subjectivity and objectivity, belief and rationality, body and mind, and art and science by admitting Michael Polanyi's proposition that all knowledge is either tacit or rooted in tacit knowledge, and that "knowing" requires the commitment of the individual.

Based on this perspective, we have proposed SECI, a dynamic model of knowledge creation. There are four modes to this process: empathize with reality through actual experience (socialization); articulate the essence of awareness into concepts (externalization); relate the concepts and systemize (combination); and embody the knowledge and create value in the form of technology, products, software, services, and experiences (internalization) – while at the same time stimulating the emergence of new knowledge in the organization, market, and ecosystem, and spiraling up again to the socialization step. This model of knowledge creation is anchored in a critical assumption that human knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge.

Westerners tend to emphasize linguistic knowledge and the Japanese tend to stress experiential knowledge. In the SECI model, explicit and tacit knowledge interact and convert with each other dialectically. And it is individuals' tacit knowledge that is the basis of organizational knowledge creation. The organization has to unleash tacit knowledge that has been created and accumulated at the individual level. When mobilized, tacit knowledge is converted to explicit knowledge and can be shared organizationally, eliciting the conversion of explicit knowledge to tacit knowledge and vice versa, amplified through the four modes of the SECI process. New knowledge will be crystallized at higher ontological levels through a spiraling process, starting at the individual level and moving up through expanding communities of interaction that cross-sectional, departmental, divisional, and organizational boundaries. Through the continuous and fast spinning of the SECI spiral, where the interaction and the conversion between tacit knowledge and explicit knowledge occurs, a firm can build its capability to synthesize knowledge to pursue both creativity and efficiency.

How did you come to realize (know, or experience) that knowledge creation was a dynamic, creative, and dialectical process – given that conventional theories didn't understand it in this way?

While I was doing research with my colleagues Hirotaka Takeuchi and Kenichi Imai at Hitotsubashi University on the innovation processes of Japanese companies in developing new products, I realized that the innovation process cannot be explained solely by the information-processing model. Looking back on my PhD dissertation, "Organization and market," I recall that I based my theorization on Ashby's concept of "requisite variety" and Simon's concept on "information processing" at the individual level – and extended their application from the individual to the organization and then to the market environment. At the time, I was still thinking about efficient information processing, not information creation. However, as I had concluded in our paper with Nonaka and Nicosia (1979), environmental variety requires variety in the organization so the organization can cope with the high variety in the environment.

So I proposed the concept of information creation in which a firm is viewed as an entity that evolves intentionally through information creation rather than simply adapting to the environment. As part of my theory of information creation, I also proposed that organizations are self-organizing, which means that they are capable of creating order (information) from chaos. However, the concept of information creation was still tentative, and soon thereafter I shifted my focus to knowledge creation. I could not fully agree with Simon's metaphor of "human as an ant," which asserts that the complexity of an ant's (i.e. humans) action merely reflects environmental complexity according to its cognitive limits. I felt there was no human value dimension in his view.

How did you shift from focusing on information creation to knowledge creation?

Hirotaka Takeuchi and I published "The new new product development game" in the *Harvard Business Review* in 1985. In researching this paper, we faced situations in which people were challenged to the limits of their abilities, and they overcame by working in teams. At that time, I was not fully satisfied with the concept of information creation as it did not include the role of human factors such as personal commitment, will, emotion, and strong belief – among others – in innovation. Information creation also could not account for how people could get others to buy in and work together. I knew that an organization required a managerial environment that believed in people's abilities and enabled them to exert creativity at all levels of the organization in order to fulfill its purpose (Nonaka, 1985a).

Given a hint from others at the Harvard symposium, I came to realize that it was knowledge, not information, that we needed to be dealing with. Knowledge creation, rather than information processing or information creation, could incorporate the role that human subjective dimensions of belief, commitment, and courage played in the innovation process. Simon's decision premises are based on science, and thus do not take values into account. So I started to build the theory of knowledge creation and further developed the concept in my article "The knowledge-creating company" (1991), as well as in the book *The Knowledge-Creating Company* (1995) that Hirotaka Takeuchi and I wrote.

As I studied "knowledge," I came across Polanyi's concept of tacit knowledge, (which allowed me) to bridge and synthesize the East-West dichotomy in philosophy. Since then, I have been devoting my academic life to establishing a theory that explains firms' innovative activities from the viewpoint of knowledge creation.

Much of your research has been conducted in collaboration with others. For example, you wrote *The Knowledge-Creating Company* with Dr Hirotaka Takeuchi, *Managing Flow* with Dr Ryoko Toyoma and Dr Toru Hirata, and *Pragmatic Strategy* with Dr Zhichang Zhu. Does your research reflect the collaborative spirit and process with which it was created, and if so, how? What roles do collaboration, dialogue, and practice play in the theory of knowledge?

I have published the key concepts of my theory construction in single-author papers and books such as *An Evolutionary Theory of the Firm* (in Japanese, 1985), *A Theory of*

Organizational Knowledge Creation (in Japanese, 1991), "The knowledge-creating company" (1991), and "A dynamic theory of organizational knowledge creation" (1994), to name a few. As Simon pointed out, we have limitations in cognition. So if we want to extend our capacity of cognition and knowing, we have to collaborate. And through collaboration, we can promote a dynamic and dialectical knowledge-creating process.

As I have just highlighted, the SECI model describes the knowledge-creating process – the process of conversion between tacit and explicit knowledge. I think what we do in our collaboration is actually the SECI process. As we say, knowledge is created by the interaction between people and between people and the environment and by building "ba," which may be conceived of as a shared space for emerging relationships – the frame made up of the borders of space and time in which knowledge is activated as a resource for creation. So among ourselves, and with the people of the organizations we study, we continue spinning the SECI spiral while we research, discuss, write, and review. It never ends; it only ends when we go beyond the deadline and the publisher tells us to stop!

Your work profoundly reflects a Japanese mindset. Could you describe some of the more important Japanese intellectual traditions that have influenced or informed your work?

I find that phenomenology and pragmatism in Japanese intellectual traditions are both distinctive from and common to Western way of thinking. For example, in phenomenology, Merleau-Ponty's concept of corporeality and Varela's concept of embodied mind are close to body and mind synthesis in Zen; William James influenced Kitaro Nishida's concept of pure experience. On a side note, Michael Polanyi is Hungarian, and Hungarian belongs to the Ural-Altaic language, as does Japanese: an interesting coincidence.

I would also add *Bushidō* by Inazo Nitobe and *The Book of Five Rings* by Musashi Miyamoto, among others. As Nitobe pointed out, the reason the Japanese lack abstruse philosophy can be traced back to the neglect of metaphysical training under the education of *Bushidō* . However, at the very base of ontology, the difference between Western and Eastern thought diminishes. I think the difference between Eastern and the Western ways of thinking is not in kind but in degree, although the gap appears to be quite huge.

Why did you dedicate an entire chapter to philosophy in *The Knowledge-Creating Company*?

Philosophy aims at defining truth, goodness, and beauty, which are all fundamental to creating new knowledge, because knowledge is rooted in and created from our values and beliefs. This is why we devoted a chapter to philosophy in *The Knowledge-Creating Company*, including the history of Western epistemology and the origins of the Japanese intellectual tradition, as a basis for discussing the philosophical foundation of our theory of knowledge. Frankly speaking, Hiro and I had a hot debate – almost like a fight – on whether to keep or delete the chapter back then; however, he confessed later that without it, the book could not have attracted global interest.

You've said that the process of identifying and creating the theory of knowledge creation has been, and will continue to be, "the way of [your] life." Could you please explain this statement? Do you think that one finds, or creates, the way of one's life?

To be precise, the process of creating knowledge should be the way of life for everyone, not merely myself. When we think of a way of life, the question "How can we live a better life?" is evoked. This means that the process of knowledge creation ultimately seeks to reach excellence – the virtues of truth, goodness, beauty, and common good, in particular – within the actual context of daily life. We call the process of seeking excellence and reaching professionalism a "kata (型)" or "creative routine" in English. This is a routine to create a new routine with three steps: Shu (守, learn), Ha (破, break), and Ri (離, create).

This applies to both firms and management. Because firms and their management teams exist as members of our society, they are connected and related to everyone and the world. Accordingly, they cannot and should not seek only to achieve their own profit, becoming a money-making machine. They also need to seek excellence and the common good in relation to others and the world. I think that is about why and how we live, the relentless pursuit of excellence, aka "way of life." This thinking is common to business thinkers such as Barnard, Drucker, Peters and Waterman, Collins, C.K. Praharad, and Mintzberg, who all focus on the role of liberal arts and artisanship.

Why has the theory of knowledge been so needed in the management field? How has your work challenged – and even transformed – conventional views of the organization, strategy, and innovation?

As Peter F. Drucker pointed out in his book *Post-Capitalist Society,* "Knowledge is the only meaningful resource today" (Drucker, 1993). Knowledge as a management resource has become increasingly important, especially in the development of continuous and sustainable innovation. Firms cannot gain a better position than their rivals by cutting costs. Without innovation, they will not be able to differentiate. They will not be able to increase their valuable, rare, and inimitable organizational capabilities and core competencies, so to speak. Knowledge is the source of innovation; the process of knowledge creation itself is the innovation. Knowledge as a management resource is limitless, while other physical resources have limited availability. In order to create new knowledge and innovate, each firm has to seek a different future and create a different strategy. For that to happen, management's critical role is to unleash the knowledge potential organizationally.

In *Managing Flow*, you profoundly stated that "knowledge is more than just a simple collection of information. […] Its most prominent feature […] is that it is born of human interaction." And "[…] to understand knowledge, we must first understand human beings and the interaction processes from which knowledge emerges." So, what is knowledge?

In Western epistemology, knowledge is defined as "justified true belief," and the emphasis is on the "truth." This understanding goes back as far as the ancient Greek Philosopher Plato, who emphasized objectivity and eliminated subjectivity. He insisted that unless we purify ourselves from the bodily senses, we cannot come closest to knowledge (Gibbs, 2005). In contrast to this Western thinking, we in the East emphasize "belief"; however, even in the West, Polanyi said belief precedes knowing. Human subjectivity involves not only belief and commitment, but also dreams and values that aim for the common good. Only with commitment can we give direction and driving force to the knowledge-creating processes. Nonetheless, we are fallible and thus we may not be able to reach the absolute truth but can only challenge ourselves to get closer. This is why we define knowledge as "the dynamic social process of justifying personal belief toward the truth." In *Managing Flow*, we incorporated the philosophical thinking of A.N. Whitehead, who presented the concept that "process is reality." We think knowledge, too, is a process; it has a meaning when it is created and used in a particular situation in a particular context. That is why in *Managing Flow* we defined knowledge to be subjective, process relational, aesthetic, and created through practice.

What do we need to understand about human beings and human relations to better understand knowledge and the knowledge-creating process?

In the neo-classical theory of the firm, people are considered to be mere agents who make objective and rational decisions and actions; by eliminating subjectivity, the theory is made a science. In our conception of the knowledge-creating firm, we put subjectivity back. Firms differ because they want and strive to differ, aiming at different futures with different sets of strategy and resources, based on people's subjectivity, beliefs, values, and commitments. In our theory, the firm is a knowledge-creating entity that reshapes the environment, and itself, through knowledge creation rather than as an information-processing or money-making machine. So within this concept of the firm, individuals matter. Individuals interact with each other and transcend their own boundaries by accepting others as whole beings, and, as a result, they change themselves. In the knowledge-creating firm, knowledge is dynamically and socially created through the synthesis of the different views of different people.

So the main point here is to embrace human subjectivity – but at the same time we must bear in mind that we need both subjectivity and objectivity. It is not "either or" but "both and," meaning that we have to synthesize the dichotomy of subjectivity and objectivity. To free ourselves from the prejudice of considering only objective, scientific, and explicit knowledge as the knowledge, we need to restore the perspective on knowledge that will balance belief and rationality, art and science, by admitting that "knowing" requires the commitment of the individual.

In *Managing Flow*, you say that the "knowledge-creating theory is based on a view of the world and all things in it as in continuous 'flow.'" Correspondingly, in *Pragmatic Strategy* you refer to the root metaphors of life in Tao as change, movement, and activity. How do the concepts of flow and change impact knowledge creation, creativity, and the knowledge-based firm?

We define knowledge as a dynamic process. This follows the tradition going back to the ancient Greek philosopher Heraclitus, who said "Everything flows (panta rhei)." Knowledge needs to be created, used, and justified in the particular and actual contexts of daily lives or it will not have any meaning to us and our society. On the other hand, information may be more static; it can be stored and processed in a computer. This was the information paradigm of the Carnegie School, expressed by H.A. Simon, R.M. Cyert, and J.G. March, among others. But we took a different approach; that the most important resource in management is not the information but the knowledge. Knowledge comes from the inside out; we create it ourselves. Information comes from the outside in; it is something already out there and given to us. In short, knowledge is not given or something "out there" – we create it in a "here and now" context. In this sense, information is close to explicit knowledge; for information to become one's knowledge, it needs to be internalized through action and practice.

Given that people are usually culturally ethnocentric, how may your theories be embraced, learned, and/or applied by Western-based managers and leaders?

I believe that many of the people in Western countries will share our perspective on knowledge – that all knowledge is either already tacit or is rooted in tacit knowledge.

As I said earlier, the term "tacit knowing" was presented by Michael Polanyi. In addition, we have a firm philosophical background behind the SECI process:

Socialization is closely related to the phenomenology presented by European Philosophers such as Martin Heidegger, Edmund Husserl, and Maurice Merleau-Ponty and the Japanese Philosopher Kitaro Nishida. Externalization is related to the idealism of Plato and Immanuel Kant when we create a concept or prototype. Combination relates to Descartes' rationality when we relate the concepts and build a model or theory, or when breaking down the concept into specifics. Internalization relates to the pragmatism of William James, John Dewey, and the young Mao Zedong. Aristotle, to whom we often refer regarding his concept of phronesis, was from ancient Greece. Alfred, N. Whitehead, who presented "process is reality," is also a Westerner. Interestingly, the Center for Process Studies where Whitehead is the main research topic is jointly operated by the Claremont Graduate University, home to both the Drucker School and the Claremont School of Theology. I once visited and was impressed by Professor Emeritus J.B. Cobbs when we concluded that management is a flow. So the essence of the issue here is not Western vs Eastern culture and tradition, but how much we can accept and transcend various intellectual heritages.

How can Western people let go of Cartesian dualism, insecurity with uncertainty, fear of change, and other deeply entrenched Western theories and paradigms?

If Western people's beliefs are already so ideologically entrenched, it may be quite difficult to change their mindset. However, if we look back to the basis of pragmatism, it was born in the bloody experiences of the American Civil War; pragmatism allows us to synthesize the conflict of ideologies, actuality, and truth. Because pragmatism has always existed as an aspect of human beings, William James called it a new name for an old way of thinking. A good example of pragmatism comes from Deng Xiaoping, who led China to a market economy after Mao Zedong, when he said, "It doesn't matter whether a cat is white or black as long as it catches mice." We tend to follow Plan-Do-Check-Act (PDCA) and Ready-Aim-Fire sequences, but many excellent companies do not always follow these; they think and move at the same time. On this point, there is growing recognition of a movement in philosophy from a "linguistic turn" to a "pragmatic turn" and then to a "practice turn."

What is phronesis? How does it enter into the process of organizational knowledge creation?

I have written about this in my article "From information to knowledge to wisdom: my journey." Let me recap it here.

Phronesis may be roughly translated as prudence, practical wisdom, or practical reason. Generally, it is the ability to determine and undertake the best action in a specific context to serve the common good. As Henry Mintzberg argued, management is not only a science, but a blend of science, art, and craft (Mintzberg, 2004). Each situation a manager faces is unique, and he or she must take action appropriate to that situation, not only to maximize profit but to serve the common good. Therefore, phronesis is a practical wisdom that will help people make the best and most timely judgments for the common good – to find that just-right answer – given their particular contexts and situations.

Phronesis also provides people with the ability to contemplate and improvise on the spot – you can call it "contemplation in action."

Phronesis is a very important aspect of the leadership of knowledge-creating firms because leaders must be able to synthesize particulars and universals and convert tacit and explicit knowledge, thereby promoting the continuing spiral of the SECI process. Phronesis is acquired through the relentless pursuit of excellence, which makes one a virtuous artisan.

What are the qualities, or abilities, of a phronetic leader?
We researched and studied business leaders and wartime leaders and defined six abilities of the phronetic leader, which I published in *Management Flow* (Nonaka *et al.*, 2008) and *Wise Leader* (Nonaka and Takeuchi, 2011). I will quickly list them for you:

- the ability to make a judgment on "goodness";
- the ability to perceive reality as it is;
- the ability to create *ba*;
- the ability to articulate the essence into a narrative;
- the ability to exercise political power to realize the narrative; and
- the ability to foster phronesis in others to build a resilient organization.

By the way, *ba* (場) is a Japanese word meaning field or place. Following Kitaro Nishida, we use it to express a shared context for emerging relationships, which provide a platform for advancing individual and collective knowledge. Because "ba" sounds like "bar," people would instantly understand when I say "knowledge is created in 'ba/bar.'"

Who, in your mind, is a good example of a phronetic organizational leader?
In the article I wrote with Hirotaka Takeuchi in the May 2011 issue of *Harvard Business Review* entitled "The wise leader," we selected nine leaders from Japanese companies, along with one from India. These leaders are good example of the phronetic leaders. As for descriptions of their leadership abilities, please refer to the article.

Steve Jobs, the founder of Apple, was also a phronetic leader. I often compare Steve Jobs and Soichiro Honda when I present the exemplars of phronetic leaders. They both have the six abilities of phronetic leadership. Steve Jobs may be seen as a charismatic and egoistic leader, but he had a vision of the common good, nurtured "A" teams, and raised the next generation of engineers and leaders.

Who is a good example of a phronetic political leader?
One of the most important examples of a phronetic political leader is Winston Churchill, the Prime Minister of the UK during the Second World War.

I just finished a book in Japanese on D-Day, the Battle of Normandy, focusing on wartime leadership. Eisenhower, who was the Supreme Commander of the Allied Forces at the time, was said to be an "ordinary man" – no charisma. However, Drucker also said that charisma is not needed. He said (Drucker, 2004):

> The constructive achievements of the twentieth century were the work of completely uncharismatic people. Two military men who guided the Allies to victory in World War II were Dwight Eisenhower and George Marshall. Both were highly disciplined, highly competent, and deadly dull.

Why then, could people like Churchill and Eisenhower accomplish such great achievements? I think because they were phronimos; they owned and practiced the six abilities of phronetic leadership. Both Churchill and Eisenhower held a strong belief in their role as defender of civilization and freedom. Based on their historical imagination, they stood up decisively to fight against Nazi Germany and protect democracy as the common good. The six propositions (of phronetic leadership) explain their achievements well in my analysis.

Recently, I came across the latest movement in philosophy, neo-pragmatism. Leading scholars are Robert Brandom and John McDowell. They inherit the pragmatism of Charles Peirce, William James, and John Dewey, as well as the pragmatics of Ludwig Wittgenstein, and try to synthesize the mind and body dichotomy by experiences. Interestingly, McDowell refers to phronesis as the key for this synthesis. This would be another new frontier of my research.

In *Pragmatic Strategy*, you are quoted as saying "[c]reativity without purpose is lethal, and innovation should be judged based on common good." Could you expand on this statement?

What is important here is the judgment criteria of the common good, which means our values. Our values are based on our historical imagination – how deep and wide we can capture the relationships of the past, present, and future. For example, Churchill stood up against the Nazis while Chamberlain adopted the appeasement policy; what caused this difference was their historical imagination. Churchill could look back to the past for how the British had contributed to human civilization since the Roman Empire, while Chamberlain could only imagine the tired faces of Londoners after the First World War.

You cannot innovate for the sake of innovation or only for the sake of making money. Innovation needs purpose and direction, and these should be determined based on the common good. Many questions need to be asked, such as these: what is the innovation for, what does it realize, who will benefit from it, and how does it benefit them? These questions can only be answered by applying value judgments. We believe that such values should seek the common good. This is about creating value for not only the firm, but the social ecosystem as a whole.

Why are ambiguity, creative chaos, fluctuation, and uncertainty needed in strategy?

I use the example of a strategic planning method – the PDCA cycle. This cycle starts with planning, but in reality there is always something unplanned, unexpected, and/or unforeseen that happens. It is impossible to prepare a contingency plan for every possibility. In other words, ambiguity, chaos, fluctuation, and uncertainty are the given conditions that we have to cope with. This is why we propose the SECI spiral. Socialization is about empathizing with reality, and Internalization is about learning by doing. In short, the SECI spiral embraces ambiguity, chaos, fluctuation, and uncertainty. In addition, we even promote what we call "creative chaos" to further embrace diversity. Difference makes differences.

How do we as scholars, leaders, and managers develop more human beings (i.e. scholars, leaders, managers, and employees) who are capable of ambiguity, creative chaos, and fluctuation in order to create knowledge – especially in cross-cultural environments?

Through developing humanity or liberal arts through broad experiences. For that, I believe the most important factors are the *ba* and the social capital that are part of the organization's culture. If the management, the organization, or the leader can prepare a good *ba* with a sense of care, trust, and love, enabling people to accept and be accepted and providing a sense of security and safety for speaking up, we will be better able to accept the ambiguity, chaos, and fluctuation needed to create knowledge. For that, apprenticeship and mentoring matters; it is a method for sharing high-quality experiences. We can even improve character skills through experiences, according to University of Chicago Professor Heckman, a Nobel Prize winner in economics. He points out that character skill is also a dynamic process, and thus apprenticeships are important.

You have again referred to *ba!* You also include it in your description of the knowledge-based firm and the abilities of the phronetic leader. What is *ba?*

As I mentioned, *ba* is defined as "shared context-in-motion," in which knowledge is shared, created, and utilized. It is a physical or virtual place where people share their "here and now" contexts. In sharing the here and now context, *ba* becomes a dynamic platform for inter-subjectivity, where a sense of care, trust, love, security, and safety is shared. *Ba* is an open space-time where meaning is created through relationship with others. When a *ba* is created, people empathize their values and feelings with others and create a meaning that transcends themselves in open and permeable relationships. Then the *ba* becomes the basis for emerging knowledge and the foundation for knowledge-creating activity.

What features must be present for ba to be an effective place for knowledge creation?

We define six conditions of good *ba* for knowledge emergence:

(1) self-organizing with a self-transcending goal (self-organizing);

(2) direct sharing of senses, feelings, and emotions; a sense of social capital – care, love, trust, and safety (inter-corporeality);

(3) shared objectives and commitment, not onlookers (commitment);

(4) self-awareness in relationships with others (meta-recognition);

(5) permeating boundaries with moving centers (permeability); and

(6) diversity of knowledge and efficient interactions (requisite variety).

One example is Honda's *waigaya*. *Waigaya* is an onomatopoeia of the sound of people talking. At Honda, when a new product development project is set up, team members will spend three days and three nights off-site, with good food, good drinks, and a good spa. On the first day, they will talk about superficial issues, and sometimes badmouth their bosses. By the second day, members run out of explicit knowledge, start articulating tacit knowledge, and begin to accept others as whole beings even if there are conflicts of interest. On the third day, a leap of the idea will occur. What happens in *waigaya* is exactly the SECI process; and it is the *ba* that nurtures this process.

How might managers from different cultural backgrounds be aware of, and become capable of creating, *ba*?

The capacity for creating *ba* comes from understanding and empathizing with others through daily verbal and nonverbal communication, reading the context to judge the best timing for interaction, and being able to elicit empathy in return. So regardless of the differences, to some extent this capacity is universal across cultures. However, it is important to foster security and safety in the *ba* so people will be willing to speak up about their ideas, share their knowledge, and express their opinions without being concerned that someone else will take credit for their ideas or talk badly about them behind their backs.

Let's talk a bit about your knowledge-based theory of the firm. In the shareholder view of the firm, profit maximization is the primary goal. What is the role of profits in the knowledge-based theory of the firm?

We believe the sequence is the opposite of the shareholder view of the firm: if we seek the common good for society, and if we can create knowledge that will realize social value, (or in other words) socially accepted value for customers, profitability will follow. However, this is not a simple causal relationship such that if a company pursues common good, profit will automatically follow. This is why we presented a "knowledge-based business model" in the Japanese version of *Managing Flow* (Nonaka *et al.*, 2010). We have to create a business model that realizes the co-creation of social value among various stakeholders.

One example is Eisai Corporation. It is among the first companies to integrate knowledge-creating theory in its organization system and process; it established a Knowledge Creation Department that reports directly to the president. Eisai's articles of incorporation were revised in 2005 to clearly state that "The company's mission is the enhancement of patient satisfaction. The company believes that revenues and earnings will be generated as a consequence of the fulfillment of the mission. The company places importance on this positive sequence of the mission and the ensuing results." For Eisai, customer satisfaction comes first, then profit; this order is important and should not be reversed.

What is the role of common good and ethics in this theory?

We believe it is human nature to seek some common good, just as Aristotle said in *Nichomachean Ethics*: "Every sort of expert knowledge and every inquiry, and similarly every action and undertaking, seems to seek some good."

So everything we do should seek some common good, and management is no exception. Just to repeat, management activity is not a money-making machine that only satisfies individual greed. Management and the firms they run are also members of our society. Not only do they have to follow corporate social responsibility guidelines, but they have to create value for social good, which involves ethical judgment. As you know, there are many excellent, long-lived US companies, such as Du Pont, 3M, IBM, GE, and P&G, and they have also been our prototypes. Although recent Occupy Wall Street movements emphasized the dark side of capitalism, I would like to note that there are such "good" companies in the West.

In your theory, you also use the term "middle-up-down management." How does this differ from traditional management systems?

Conventional managerial wisdom usually incorporates either top-down management or bottom-up management. Top-down management assumes the presence of a strong top executive whose decisions are transmitted downward along the organizational hierarchy and implemented by those in lower management. Typical examples are the bureaucracy and command-and-control in military organizations. Knowledge is created at the top level and distributed down: a deductive approach that sometimes neglects the reality at the frontline.

Bottom-up management assumes organizational democracy, where knowledge is created at the frontline and conveyed upward from the lower level and influences the decision making at the top. A typical example is the Kaizen process at the frontline on the production floor or in retail stores. Knowledge created at the frontline is rooted in the actuality and the tacit knowledge at the frontline. In both cases, middle managers are criticized as mediators who add almost no value.

In contrast, middle-up-down management considers middle managers the key to creating new knowledge. They may mediate between the essential contradiction that exists between the grand and abstract vision and strategy created by the top level and the actuality and tacit knowledge that the people at the frontline have gained. Middle-up-down management emphasizes the dynamic role of middle managers. One good example of this is at Cisco. John Chambers, the CEO of Cisco, was known to be a top-down, command-and-control manager. However, he has turned his company into one that works on teamwork and collaboration, and has connected communities of distributed leaders, aka the "Distributed Creative Engine." Middle managers became the key; they know top management strategy as well as what's happening at the frontline, and thus take actions dynamically.

Organizations that incorporate middle-up-down management can be said to have a fractal structure or a dynamic fractal organization. For the details of this concept, please refer to our paper "Dynamic fractal organizations for promoting knowledge-based transformation – a new paradigm for organizational theory" (Nonaka *et al.*, 2014).

How can we apply your theories and practical studies to the global need to create long-term, sustainable firms and societies?

I think we can apply the theory and studies by starting small with a task force or a project team, with a commitment from top management. By actually experiencing the processes, the organization will learn by doing and through trial and error. Team members will experience the SECI spiral and the six abilities of the wise phronetic leader. They will learn to embody both tacit and explicit knowledge.

The commitment of top management allows for the stability and sustainability of the project team. It also allows them to select good team members, change organizational structures, and/or rotate members once they have experienced and learned the theory through practice.

One example of an application of this process may be "agile scrum" in software development. Originally, the concept of agile scrum came from the paper "The new new product development game" I coauthored with Hirotaka Takeuchi. The metaphor of rugby was presented in the paper, and it was adapted in the software development process, replacing the traditional waterfall system. In agile scrum software development, intimate *ba* is established and the SECI spiral takes place every day. For example, project members visit customers and try to articulate their hidden needs and wants; they meet every morning and confirm what to do using a whiteboard with sticky notes; and software developers pair up and develop software code together, using one PC. Once the theory is adopted and systemized in everyday processes, it becomes a "creative routine" with constant improvement and innovation to match environmental changes.

Societies and organizations in the global world only continue to change. Do you think that the world is becoming flatter, smaller, more connected, or something else?

I believe the world is becoming global and local at the same time. Economically, the world is becoming more connected, more related, and more interdependent. This may mean that the world is becoming smaller. But many consumer products are tailored to local needs and wants, meaning there is still diversity in culture and traditions.

On the other hand, politically, there are still conflicts between countries as well as against terrorism. We may view this situation as disconnected.

Again, I believe the world is always changing and in flow, as are societies and organizations. The important point here is that we can change the direction of the flow. I do not think we must follow environmental determinism. Our passion, will, courage, and all our other [positive, human] traits will allow us to create environmental "possibilism."

You say that relationships in a global ecosystem cannot be described by simple causality. How do relationships operate in such an open and connected system?

As in chaos theory, the behavior of dynamic systems is highly sensitive to initial conditions – an effect that is popularly referred to as the "butterfly effect." Small differences in initial conditions (such as those due to rounding errors in numerical computation) yield widely diverging outcomes for such dynamic systems, rendering long-term prediction impossible in general (Kellert, 1993).

In a chaotic situation, what becomes important is the ability to see the patterns. For that, creating narrative and learning from history will be important. Churchill said, "Study history, study history. In history (lie) all the secrets of statecraft." The same applies to management. By studying history, we will be able to project the past forward and compose a narrative about our future. This is about creating strategy.

It seems that there is only disorder and there is no causality. There are only many relationships, which continue to change over time and space. So it will be the role of leaders distributed throughout the organization to make whatever judgment is needed and then take action. If the judgment and/or the action turn out to be wrong, they must make another judgment and take another action as quickly as possible, because everything is sensitive to the initial conditions.

This is why we start the knowledge-creation process from Socialization in the SECI model, and why the ability to create *ba,* the third ability of the wise leader, becomes so important.

Many of your theories were developed to better understand organizational innovation. How may your theories (and the concept of ba) be applied to open-innovation systems?

Henry Chesbrough defined open innovation in his forthcoming book *Open Innovation: New Frontiers and Applications* as "a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model." This means that in open innovation, knowledge residing both inside and outside of the organization is fully utilized, as David Teece argues in his concept of dynamic capability. Innovation is not limited to occurring within the firm's boundaries but is open to the ecosystem.

As I mentioned, we view the world as a flow, constantly changing in a chaos, meaning that no concrete border or boundary exists. Accordingly, SECI is a never-ending upwardly spiraling process. *Ba* has an open and permeable boundary, and wise leadership fosters phronesis in others, connecting multiple relationships. So our theory has high affinity with open innovation. Open innovation is about utilizing everyone's knowledge beyond conventional organizational boundaries, through open *ba*, often on the Internet. *Ba* can even be created virtually, as members socialize with others and promote the SECI spiral. And for that to happen, wise leadership is critical.

What is strategy and why do we need a new form of strategy today?

Strategy is an intelligent force used to interpret the current situation and create the future: that is, a new reality that only the firm can create. Strategy, therefore, is about creating the future. Strategy and innovation, themselves, are both knowledge-creation processes. Accordingly, strategy is not just about differentiation, cutting costs, or increasing ROIC.

We are now facing global uncertainty. The business landscape is becoming ambiguous with the collapse of shareholder capitalism, shifts in economic gravity, an ambivalent attitude toward globalization, and increasing concern for the environment. Strategy, too, is in a crisis, yet in crisis there are both dangers and opportunities. To neutralize danger and seize upon opportunity today, we need a new form of strategy. Even though the world is full of complexity, ambiguity, and uncertainty, strategy must set purposeful direction and concrete action to promote situated creativity and realize common good. As I said, creating strategy is projecting the past forward and composing a narrative about our future.

The world we live in is real and actual; it is not an abstract, separate thing but exists together with our personal experiences. In this world, strategy is about how firms and their managers orchestrate material-technical assets, mental-cognitive capabilities, and social-normative relationships in a timely, well-balanced, and appropriate manner so as to create and capture value. By acting pragmatically, we can bridge the practice gap, bring ethics into management and organizations, and overcome extreme idealism. I believe that pragmatism coupled with idealism, which we call "idealistic pragmatism" (and emphasizes pragmatism) is our best way to present a new form of strategy as a positive means for balancing the material, mental, ethical, and ecological conditions of people, communities, and society.

Why is idealistic pragmatism so important for managers to understand and use today?

Idealistic pragmatism is essential because while the real world appears to reward what works and penalize what does not, at the same time we need to aim at reaching the ideal. Idealistic pragmatism is deeply ingrained common sense. It is the purposeful accomplishment of idealistic, informed, and disciplined experimentation. Phronetic strategy is innovative, ethical, and effective. It is about moral standing, sound judgment, skill in implementation, and learning capability. Phronetic strategy grows out of both profound intellectual traditions and subtle life experiences, as well as the relentless pursuit of excellence.

Why is it important for leaders, managers, and even organizations to answer the questions "What shall we do?" and "How shall we live?"

In our understanding, knowledge-creating firms, organizations, communities, and people practice the idealistic pragmatism that synthesizes ontology, epistemology, and teleology. Ontology is about "how to be"; it is the search for meaning and existence. It answers the question "What do you want to achieve?" It provides the vision for the future and is the basis of the belief and the commitment by which to achieve it, close to tacit knowledge. Epistemology is about "what to know"; it is the search for truth. It answers the question "What is the truth?" It is reasoning, objectivity, and analysis, close to explicit knowledge. And teleology is about "how to judge"; it is the search for common good and context. It answers the question "How do you judge?" And it is the timely balance of judgment and action (practical knowledge).

In sum, phronetic leadership promotes value-driven processes toward the common good, thus crafting "a way of life." By synthesizing ontology, epistemology, and teleology, these questions may be answered.

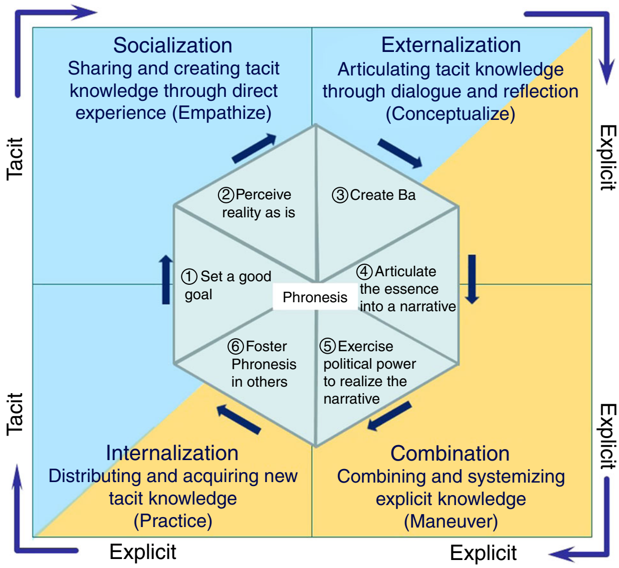
For example, in 2005 Steve Jobs made a commencement speech at Stanford University. He said:

> Remembering that I'll be dead soon is the most important thing I've ever encountered to help me make the big choices in life. If you live each day as if it was your last, someday you'll most certainly be right. You are already naked. There is no reason not to follow your heart.

This comment clearly states the "way of life" of Steve Jobs; he was influenced by Zen Buddhism and Heidegger, and he could be prepared for death and project his future.

What are your most up-to-date research interests and future plans?
I am currently focusing on the concept of phronesis. Phronesis being the key concept, I have come across the most recent trend in philosophy, "neo-pragmatism," and in international politics, "practice turn." Both focus on the importance of phronesis in our daily life as leaders, managers, and citizens. My interest, therefore, is in extending from knowledge creation in specific firms to business ecosystems, communities, society, and nations. Accordingly, my future plan is to apply and adopt the knowledge-creating theory to communities, local and national governments, and nations. Together with my colleagues and collaborators and scholars in the field of knowledge-based management, I am now working to establish a school of knowledge.

Here, I present our model of the dynamic knowledge triad – the relentless spiral of tacit knowledge and explicit knowledge driven by phronesis. This model shows the essence of knowledge-creating theory. The role of management is to continue this spiral so that personal knowledge will eventually become collective wisdom (Figure 1).



Source: ©Nonaka (2014)

Figure 1.
Dynamic knowledge triad

Could you share with us an Eastern quote that is most relevant or insightful to your life and/or work right now?
A quotation from Lao Tzu:

> The Way gave birth to unity,
>
> Unity gave birth to duality,
>
> Duality gave birth to trinity,
>
> Trinity gave birth to the myriad creatures.

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