

## The emergence of a smart global community. Zooms in and out from Miyako (Japan)

FABIENNE MARTIN

In the Okinawa Prefecture of Japan, the small island of Miyako (Miyakojima) has been working for several years on the construction of a *smart* community: a new kind of community, both technical and multi-species, which connects multiple entities with distinct ontological statuses – humans, plants, animals, natural elements, objects, artefacts – by means of information and communication technologies, in order to respond to the problems associated with what one might call, for the sake of brevity, the anthropocene. The creation of such a community is not unique to Miyako, but is emerging all over the world, although the most advanced developments are to be found in Asia, particularly East Asia.

It is this new formulation of community, produced by a worrying environmental situation and based upon a technologisation of existence, which I propose to examine here, using an ethnographic study carried out on the island<sup>1</sup>. By alternating close-up views and enlarged views, I would like to show how the smart community that is being promoted in this Japanese island of Miyako partakes of, and is a part of, a larger whole that is unfolding on a planetary scale. In other words, I would like to show how this sited community constitutes *one* of the multiple parts of a larger world commanded by new technologies, that I propose to call the “smart global community”, on which the smart community of Miyako depends, both in its present formulation and its form to come.

I would like to argue that what is at stake with the smart global community is a completely different kind of globalisation from the one we have known hitherto, and that what is emerging is a technological

---

<sup>1</sup> The city of Miyako is made up of six islands: five of them are connected by bridge and the sixth is uninhabited. It is this set that is meant by “Miyako island”.

globalisation, which creates a “community” on a planetary scale, a non-territorialised community, with no major centre, driven by the technological *functioning* and paradigmatic of a world that is taking shape.

### Close-up

*Where are we?* On the world map, Miyakojima is a tiny dot lost in the blue of the ocean. It is necessary to zoom in to see appearing, in the China Sea, closer to the Taiwanese coast than to Tokyo two thousand kilometres away, this small triangular-shaping island; at the most, about thirty kilometres from west to east and north to south. The island is inhabited by about fifty-five thousand human beings, apart from the seasonal influx of tourists, mainly Japanese metropolitans, who come here to revel in the peaceful rhythm of life, the beauty of the beaches and outdoor recreation (diving, snorkelling, paddling, golf...). Tourism, along with the industry of sugarcane that is the major crop on the island, are the island’s main sources of income, in addition to fishing, market gardening and forestry. Miyako likes to describe itself as a sunbathed island, home of beautiful nature and traditional culture.

But this little paradise also has its problems. The whole island is generally flat, having no mountains or rivers and has to tap groundwater for its water supply; daily life is highly dependant on food and energy resources from outside the island; its industry is in decline; its population is aging; and it is periodically hit by severe typhoons.

Yet all that does not prevent the island from having great ambitions for itself, for Japan and even for the world. The municipality of Miyako has indeed decided to embark on the construction of a *smart* community, which it describes as an unprecedented attempt to become a model of life for all secluded islands in Japan and throughout the globe. And we could add beyond that, as a model and almost a modelling of ecological microsystems that are to come.

It must be said that the smart community promises great things. These include: making the future beautiful with home-made energy; enabling local production for local consumption; providing food safety and job security; addressing the problems linked to the aging population; making a system for citizens to work together in close collaboration; generating wealth without destroying the planet; fighting climate change; or creating a rich environment where people never get tired of

living. In sum, in the words of the Toshiba Company, which is deeply involved in the building of the smart community in Miyako, the aim is “to create an ideal human smart community, where people live in peace, safety, and comfort” (Toshiba Review 2015: 1).

### Even closer view: Miyako smart community

How does this *smart* community operate in practice? It seems to begin with a human commitment, as shown by the *declaration* issued by the municipality of Miyako, which proclaims: “we [i.e. the whole human population of the island] will protect our precious ground water which supports the island’s life. We will protect our beautiful corals reefs and the sea. We will conserve our limited resources and energy by using our wisdom and creativity. We will act individually, aiming to make Miyakojima beautiful, tidy, and earth [sic] friendly. We will think and act together with the peoples of the world to preserve and protect our environment and pass it on to future generations. We will protect our forests, sea, and air and act to make an environment in which all living things can co-exist” (Miyakojima City 2008).

Far from being limited to human beings, the concept of smart community implies a reconfiguration of the relationships between a multitude of existing ones. Like any *smart* community, that of Miyako is indeed a hybrid assemblage of beings of different “natures”. Within the Miyako smart community we find in particular: a) sugarcane plants; b) fish; c) algae; d) microorganisms; e) humans; f) wind turbines erected on the northern and south-eastern capes of the island; g) solar panels by the tens of thousands, nestling on the roofs of schools, houses, administrative buildings, on the tops of cliffs and in the hollows of fields; h) photovoltaic power plants; i) storage batteries; j) small electric cars; k) charging stations; l) wind; m) rain; n) sunlight; o) the island’s mascot character, a great defender of nature, with her blue hair in the shape of waves and foliage on her head; p) her sidekick, the energy superhero, in a golden suit and silver cape; q) refineries; r) eco-houses; s) waste; t) measuring devices; u) servers; v) software; w) data; x) a mangrove; y) a huge underground dam, one of the largest in the world; z) the limestone of the subsoil... A lot of people, especially since the community is not limited to a number of participants but can always integrate new members able to contribute to its functioning.



If the list remains open, the functioning is closed on itself. As shown in this schema published by the municipality of Miyako, the smart community is made up of chains of links, which are like so many small closed circuits. Whatever the schemas (and there are many of them), the smart community is always represented by finite loops of relationships; it is sometimes described as a “closed-loop society”. Here we can visualise the systemic nature of this community: the smart community is not only a gathering of disparate elements, a mere aggregation of heterogeneous entities, but is first and foremost and fundamentally a *system*. This means that its members are caught up in interdependent and cooperative relationships, as in a body or in a machine, and that such collaborations between members are not subject to randomness, or to the wish of each one, but are fixed and determined beforehand. Each member, or rather should we say more accurately each *component*, fulfils functions assigned to it and must stick to them – otherwise it is the bug, the interruption, the malfunction. And this is the meaning of the word in computer science, where the loop designates a series of instructions that a program executes repeatedly.

This principle of relating does not therefore admit beings in their entirety, with their multiple characteristics, with the totality of their possibilities and modalities of being, but selects properties in them, the only ones judged useful for the functioning of the whole. Thus, the wind is slowed down in its movement and reduced to its ventilating capacity (in the eco-house for instance), or brought back to a source of energy (when it collaborates with the wind turbine); fish are agents controlling the quality of the water; the sun is also brought back to a capturable energy (in its collaboration with the photovoltaic panels); and so it is with all the components, including humans, who must likewise conform to the functions assigned to them and to the behaviour expected of them.

This ontological reduction is an essential feature of the smart community. Its very functioning is at stake. And this is where the “smartness” of this community is expressed, beyond the use of new technologies: everyone must collaborate *intelligently*, in other words in their place and function. Of course, information and communication technologies play an important role (and as such are represented in the centre of the schema by a wall of screens); they orchestrate the relations between the existing ones, through a set of measures, calculations of participation and efficiency, controls, notifications, and thus dictate behaviour, usage and good practice.

Miyako’s smart community does not involve all the existing ones on the island, not because the community is still in the process of being developed and is for the moment a loose mesh, but because it only retains individuals useful for its functioning (individuals reduced to a function, as we have seen). Utility is a key concept here; each element has value only with regard to its usefulness in the system and is reduced to the useful role it plays within that system. This principle also establishes equality between components; none prevails, each has a role to play and must comply with it, each is in turn object or subject of decisions, user and used. Therefore the place of humans is radically redefined: in these chains of techno-social links, they are just one link among many others.

### Enlarged view: Anthropocene and capitalism

The smart community of Miyako belongs to the physical space of Miyako: it is there, in the space of the island that the community deploys itself and with the elements that are present, either they were already

there before (the dam, the mangrove, the sun, the fish, the humans...), or they have been specially brought in (the wind turbines, the photovoltaic panels, Toshiba's small electric car...). All the components are not local and consequently Miyako's smart community is linked to other places: places of design where architectures, assemblages, and functions are thought out, places of research and engineering. As the community also depends on places of governance, such as Tokyo, where objectives are defined, decisions are taken, and funding is granted; or beyond the nation, places such as the United Nations, from which emanate orientations, recommendations and agendas, such as the Sustainable Development Goals (SDGs) that Miyako follows. In this sense, the "local" of Miyako's smart community is also national, at times regional, at others international.

To fully understand what is happening in Miyako, we need to open up our focus, so to speak, in order to distinguish the overall movement in which Miyako's smart community participates and the background from which that community emerges. If we do that, we are faced with a global problem, that of an environmental situation that has become globally threatening to the life of many living species, including the human species; and an underlying problem of globalisation, that of a mode of production and consumption, that is, the problem of global capitalism.

There is first a kind of alarm, the formulation of an emergency that has taken the name of anthropocene. It is the sudden awareness that humans, through their activities, cause negative changes to the planet. These changes have a geological impact, which makes their impact irreversible.

While this statement of the destruction of the planet is not to be questioned, what can be questioned is the term anthropocene. Informed commentators, such as Bonneuil and Fressoz (2016), point out that to accuse Human, *Anthropos*, indiscriminately in this way is to deny the plural history of humanity and to deny the main causes of the destruction: causes relating to a specific way of life, linked to the worldwide expansion of the industrial capitalist system in the 19th century, the then colonial globalisation of Western empires, led by England, which not only formalised a mode of production and exchange on a global scale, but above all rationalised it through the exponential growth of the technique. This is therefore a rationalisation of production, consumption and transport, by means of technique.

All that is well known, and needs no further discussion here. I will take just one example borrowed from Feenberg (2010), of this technical rationalisation concerning Japan. During the modernisation of Japan that began in the Meiji period (1868–1912), the Mitsui family created in the 1910s the first Japanese department store, *Mitsukoshi*. Its floor was composed of tatami mats, a typically Japanese element in a building responding to a purchasing principle invented in the West. And as in the domestic space, customers had to take off their shoes. The success of the store quickly made the management of shoes and slippers that were substituted for them impossible. The technical mode of rationalisation of purchases in department stores could thus not tolerate the subsistence of a local element. Wooden floors therefore replaced the tatami mats after the 1923 earthquake that led to the entire rebuilding of Tokyo according to the idea of modernisation, from architectural arrangements to the wearing of Western clothing.

I cite this example simply to point out that the industrial mode of production led in the 19th century by the capitalist system and which developed throughout the 20th century on a global scale (in liberal or neoliberal democratic regimes as well as in socialist regimes or oligarchies or dictatorships), not only imposed technical rationalisation, but is also the cause of the present-day environmental situation, which should be more aptly called "capitalocene"<sup>2</sup>.

Thus, it is in this context and genealogy that smart functioning emerges<sup>3</sup> and imposes itself as *the* solution to the environmental effects of capitalism. Like the phoenix rising from its ashes, a new world is taking shape on the ruins it has produced. But we must not be mistaken about the novelty of this world. If "smart" implies a rearrangement of the modes of relations between existing entities, if it imposes new forms of links, behaviours and uses, it does not in any way call into question the capitalist mode of production and consumption. On the contrary, it aims to maintain and preserve this dominant way of life and to be able to continue it in, or beside, increasingly ruined environments, as Anna Tsing points out.

<sup>2</sup> The history of the "capitalocene" is analysed by Campagne (2017).

<sup>3</sup> Another part of its genealogy is of course cybernetic thought; see in particular, Wiener (1989).

A new cosmology is thus taking shape, that of a *high-tech* global capitalism, made possible by the use of new technologies.

### Close-up (2)

*So, where are we in the smart community of Miyako?* Certainly in one of the provinces of this “technological” capitalism. This province is not an independent one, but belongs to a larger whole, which I propose to call *the smart global community*.

This smart global community takes shape from the multiple sites that are developing smart arrangements around the world and from the many networks that link them, which are essential to their functioning. These include the movement of people: from administrators, engineers and designers, to the often-international workforce. In Miyako, Cuban officials and business leaders come to visit the mega-solar plant and to learn about energy experiments conducted on the island; collaborations are engaged with the State of Hawaii to increase the use of clean energy; the municipality of Miyako also teamed up with two other Japanese municipalities (Kityakyushu and Minamata) similarly engaged in building a smart community, in order to exchange information, knowledge, human resources and, together, “lead the creation of a low-carbon society in Japan, Asia, and even the world”. Scientists come to conduct research. Working groups are set up and conferences are organised. Students in Global resource management, Life and Environmental Sciences, or Public Policy, come to Miyako for field trips. And special attention is given to the children, for getting into smart functioning also requires the education of future generations – this is where the mascot and her sidekick perform their role.

All the smart facilities that dot the island can be visited. The fields of solar panels and the wind turbines have been endowed with observatories; the eco-houses appear on tourist maps; the mangrove has been equipped with a wooden bridge to make it easier to cross by alleviating the inconvenience associated with bugs; and the underground dam even has its own museum. A small building called Eco-Park has also been built between sugarcane fields, in the car park of a refinery; it is the showroom of the smart in Miyako, that presents an overview of the project, by using panels, models and videos.

These are just a few examples of the network of relationships, specific to collaborations and the important promotional activity, which conditions the existence of the smart community of Miyako. This community also depends, like other smart configurations around the world, on capital flows, investors and companies involved in the development of smart projects, such as Toshiba, Cisco, Samsung, Acer, etc., all the major groups specialising in information technologies. And it is not just the flow of ideas, people and capital that links the various smart sites. Smart sites are also truly connected by the many underground and underwater cables required for digital networks (the Internet, data centres, everything that enables the circulation and processing of information) and energy distribution networks.

Miyako thus appears as *a* smart community (for the moment more imagined than completed) that is not isolated, and could not function in isolation, but is *a part* of a larger metabolism, in which each component is deeply dependent on the others to subsist as such.

### Enlarged view: The unity of culture

These collaborations and connections between the smart sites thereby form a whole on a planetary scale, which makes a system. Hence, what I think is important to consider, and I would like to say a few words about this here, is the process of standardisation, on a global scale, that the smart brings about.

This process operates in a privileged way on the occasion of the many international events held periodically: forums, smart exhibitions, and smart summits such as the Smart City Expo World Congress, to mention but one. It also goes through the awarding of certifications on which the granting of funding notably depends, in other words selection, ranking and sometimes downgrading procedures. Miyako has thus been labelled an “Eco-Model city” by the Japanese government, but is not yet recognised as a “Future City”, which is the higher label<sup>4</sup>. Standardisation also comes via the setting of objectives to be achieved (in terms of

<sup>4</sup> See for instance the JPS (Japan For Sustainability) website. The aim of an “Eco-Model City” is to achieve a low-carbon society, whilst “Future City” initiatives (selected as the top-runner of Eco-Model Cities) concern in addition super-aging issues, dissemination worldwide, and green growth.

cutting carbon emission levels, for example), prescribing behaviours and uses, and developing norms and manufacturing standards, all of which are defined internationally (in other words, they apply to all, regardless of local anchorages).

One might think – and this is how they are presented – that these processes common to the world of the smart, which play on comparison, competition and competitiveness, promote inventiveness – or innovation, to use the language of this world. But what is at stake here is not to create, but to improve the global functioning. Possibilities may be exceeded, but only in continuity with what has been set. The technical functioning does not allow for deviation. In other words, the standardisation process is not just a consequence but also a principle that prevails in the smart: the smart functioning is a mode of conformation.

This mode of conformation seems to be able to take hold of all geographies. This contradicts the findings of Appadurai for whom “globalization is never a total project capturing all geographies with equal force” (2013: 67). The strength of technological functioning is indeed its universal character. If smart projects can be developed anywhere on the planet, if smart communities can be formed everywhere, it is because the technological functioning is not dependent on the local.

Of course, we can have culturally embedded conceptions or socially determined uses of technique. If we take the case of robots, for example, we could say very schematically that relations to them are rather dystopian in the West and rather empathetic in Asia, especially in Japan or Korea where laws for the rights of robots are promulgated. But the technique as a function is not determined by culture (in the anthropological sense). Technique obeys other laws (of physics, mathematics, computer science, etc.), which do not depend on sets of cultural meanings or social structures.

Technological functioning can therefore be applied everywhere independently of the specificities of local contexts; moreover, it is called upon to apply everywhere, in that it is also stated as a way of life. In the smart assemblages of existing entities, the universalism of technical reason appears as a cultural principle. This leads me to say that the smart global community expresses a kind of *perspectivism*, distributing components of different natures but obeying the same culture. But unlike the Amerindian perspectivism highlighted by Viveiros de Castro<sup>5</sup>, the common

<sup>5</sup> In his remarkable study of Amerindian perspectivism, which also constitutes an important reflection on the meaning of “nature” and “culture”, Viveiros de Castro

culture here is not anthropological, but technological (and even more, algorithmic).

Consequently, the debates and concrete negotiations provoked by globalisation, between a universalism of techno-capitalist reason and the diversity of cultural formations (Appadurai 2005, Bhabha 2007), no longer arise in the case of the smart. Questions of appropriation disappear; there may be debates on uses, on exclusions (because not everybody is part of it), but the functioning as such is not debated.

Where previously one or two centres unilaterally disseminated their way of being to the whole world, different ways of being are now proposing to take charge of the production of the same global functioning. Or to put it differently, each local, in spite of its differences, produces one and the same global.

The smart global community thus appears to be multi-sited: not, to respect the misused concept of Marcus (1995), because it is deployed on several sites, but because it is made up of parts linked by the same instance. These multiple parts of a globalised common whole can be seen as so many “worlding nodes”, to use the beautiful expression coined by Roy and Ong (2011) about the new Asian urbanism<sup>6</sup>; nodes that in the case of the smart participate in the same planetary becoming commanded by the same principle of technological universalism.

### Close-up (3)

The smart community of Miyako can therefore be seen as *a part*, both sited and in itself global. But then, we still have to account for something that seems to oppose this, when one listens to and observes the way the Miyako’s smart community describes itself, which, on the contrary,

---

suggests “the expression ‘multinaturalism’, to designate one of the contrastive features of Amerindian thought in relation to Western ‘multiculturalist’ cosmologies. Where the latter are founded on the mutual implication of the unity of nature and the plurality of cultures – the first guaranteed by the objective universality of body and substance, the second generated by the subjective particularity of spirit and meaning – the Amerindian conception would suppose a spiritual unity and a corporeal diversity. Here, culture or the subject would be the form of the universal, whilst nature or the object would be the form of the particular.” (1998: 470).

<sup>6</sup> Worlding nodes can be seen “as a particular nexus of situated and transnational ideas, institutions, actors, and practices that may be variously drawn together for solving particular problems” (p. 4). See also Collier, S.J., Ong A. (2005).

never stops highlighting its specificities. Like the defence of a certain art of living, combining authenticity, simplicity and quietness, far from the frantic rhythms of the big cities. Or the beauty of the landscape and nature. Or again the recognition of the wisdom of the elders and the perpetuation of ancient practices that suddenly become smart, such as collecting ground water by means of an underground dam, which takes up a very old practice on the island of building wells and underground tunnels in which one would go down to get water; or the method of purifying water using algae and micro-organisms – something which, in the words of the municipality, “seems to be a primitive low technology but [...] is a wise use of natural phenomena, [...] a real smart technology for our life” (Miyako-jima City Water Authority 2014: 4).

Does this mean that even if we are witnessing the fabrication of an a-cultural global, for all that, “culture” would nevertheless not totally disappear?

While it is still too early to answer this question, we can nevertheless examine three possible, non-exclusive possibilities. First, local specificities may remain for a while, but will eventually disappear, like the tatami mats in the Mitsukoshi department store. If they all disappear, then in Miyako only a localised global with no local will remain. The precursor case that immediately comes to mind is the international smart city of Songdo (South Korea), built as a turnkey model that can be transposable anywhere else in the world.

Second, specificities of Miyako, reduced to the rank of acceptable differences, which are not useful for the functioning but do not hinder it either, will continue to exist in ignorance or indifference. It is those, with no value and no importance, which will escape the system.

Third, specificities are called to be maintained as specificities, or more precisely as *particularisms*. These are differences, specific to each sited community, which have a role to play in the global assemblage<sup>7</sup>. They

<sup>7</sup> It can be seen as a re-actualisation of the utilitarianism of John Stuart Mill, in which use would replace production: “These [outlying possessions of ours] are hardly to be looked upon as countries... but more properly as outlying agricultural or manufacturing estates belonging to a larger community. Our West Indian colonies, for example, cannot be regarded as countries with a productive capital of their own... [but are rather] the place where England finds it convenient to carry on the production of sugar, coffee and a few other tropical commodities”, quoted by Said (1993: 59).

are therefore caught up in the common functional regime (with what this implies, as we have seen, of assignment, dependence and ontological reduction). They may need to be recontextualised – assembling often implies a recontextualisation of the elements that are assembled (or, to put it another way, a re-reading of the local). In sum, they can be seen as the expression of a *style*: a variation from the inside, a way of differentiating oneself within the same space of reference and functioning.

The particularisms of Miyako would probably refer to the economy of leisure. Preserving in the smart global community the possibility of leisure could indeed be the *function* of the Miyako smart community and the stake, or utility, of its participation. The “art of being global”, to use the expression coined by Roy and Ong (2011), is perhaps also that: to exist in the world to come by finding the way to play in it a role *as a full part*.

## Conclusion

The systemic character demanded by the current technologies at the core of the smart seems to be producing something new: the radicality with which ways of life are being univocally captured. We could say that life is thus taken by a new ultra-powerful and de facto unifying apparatus; an apparatus in the sense of which Agamben has defined it (2009), that is to say a system that captures substance for its transformation into a subject; and the smart apparatus subjugates not only human life, but all the substances that are useful. A world defined by the technological condition is thus taking shape. Japan is already projecting itself into a *super smart* society, the so-called “society 5.0”, in which cyberspace (or virtual space) and physical space (or real space) are linked by the Internet of Things and the use of artificial intelligence optimises everything useful, and intends to propose it as a guiding principle from Japan to the world.

## References

- Agamben Giorgio, *What Is an Apparatus? and Other Essays*, Stanford, Stanford University Press, 2009.
- Appadurai Arjun, *Modernity at Large. Cultural Dimensions of Globalization*, Minneapolis, University of Minnesota Press, 1996.

- Appadurai Arjun, *The Future as Cultural Fact: Essays on the Global Condition*, London, Verso, 2013.
- Bhabha Homi K., *The Location of Culture*, New York, Routledge, 1994.
- Bonneuil Christophe, Fressoz Jean-Baptiste, *The Shock of the Anthropocene: The Earth, History and Us*, London, Verso, 2016.
- Campagne Armel, *Le capitalocène. Aux racines historiques du dérèglement climatique*, Paris, Éditions Divergences, 2017.
- Collier S.J., Ong A. (eds.), *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden, Blackwell, 2005.
- Feenberg Andrew, *Between Reason and Experience*, Cambridge, Massachusetts Institute of Technology Press, 2010.
- Marcus George E., "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography", in *Annual Review of Anthropology*, vol. 24, 1995, p. 95–117.
- Miyakojima City, *Declaration of Eco Island*, Okinawa, May 31<sup>st</sup> 2008.
- Miyako-jima City Water Authority (ed.), *Welcome to Sodeyama Treatment Plant*, 2014.
- Roy Ananya, Ong Aihwa, *Worlding Cities. Asian Experiments and the Art of Being Global*, Malden, Wiley-Blackwell, 2011.
- Said Edward W., *Culture and Imperialism*, New York, First Vintage Books Edition, 1993.
- Toshiba Review, *Science and Technology Highlights*, 2015.
- Tsing Anna L., *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, Princeton, Princeton University Press, 2015.
- Viveiros de Castro Eduardo, "Cosmological Deixis and Amerindian Perspectivism", in *The Journal of the Royal Anthropological Institute*, vol. 4, no. 3, 1998, p. 469–488.
- Wiener Norbert, *The Human Use of Human Beings. Cybernetics and Society* [1950], London, Free Association Books, 1989.