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## VISIT JAPAN OR WHERE TRADITION MEETS THE FUTURE – Branding a Nation Digitally Seen from the Perspective of the 4.0 Industrial Era and Semiotics

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*independent scholar, co-editor of Umberto Eco in his own words and co-editor of Charles Sanders Peirce in his own words*

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### ARTICLE INFO

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*Article history:*

Received: 26 Sept 2019

Accepted: 29 Oct 2019

Published: 19 Des 2019

*Keyword:*

Branding, Semiotics,  
Nation Digitally

### ABSTRACT

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Using the TPM is a process of meaning creation; the viewer will select cultural content from (one of the) three paradigms, tradition, modernity, and nature, and, thereafter, combine the selected cultural content into a sequence. Via the selections and combinations of the viewer (completed by the algorithm of the TPM) a message comes into being; the message is the map and the list. The map is an iconic sign, a diagram, with more semiotic functions; hence, the map not only represents different locations – rather, the map, furthermore, represents cultural content, and, thereby, we can understand the map as showing the viewer a (possible) path within that part of the “Japanese encyclopedia”, which concerns tradition, modernity, and nature. The TPM, furthermore, potentially, relates to the travel notes made by the European tourists which have been to Japan; hence, the travel notes have the status of (potential) interpretants mediating between the viewer and the cultural content by communicating, emotively and referentially, for example, the emotions, attitudes, and evaluations of the European tourists concerning the cultural content as well as referring to objective, factual circumstances. The travel notes, therefore, become a supplement to the meaning of the 360-degree VR movie and TPM. In the above we have, more than once, mentioned the Zeitgeist of the 4.0 industrial era; and the VJEW seems to be “something appropriate to the spirits of time” involving simulation and “smart digital planning” in order to convey cultural content and to brand a nation; perhaps, thereby, also, making that nation stronger.

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## INTRODUCTION

We stand at the brink of the 4.0 industrial era.<sup>†</sup> The term “4.0 industry” was coined in the year 2011 in relation to the high technology strategy of the German federal government and concerns a manufacturing form where all machines and products are networked digitally (Klitou et.al. 2017). Later, in 2015, the German professor Klaus Schwab, founder and executive chairman of the World Economic Forum, introduced the term “the fourth industrial revolution”, describing an era where integration of technologies, more and more, will blur the lines between the digital, physical, and biological (making possible cyber-physical systems), and where we will see total transformations not only of manufacturing, but furthermore, of management, and governance. Schwab mentions the unlimited possibilities of mobile connectivity between billions of people, with the development of unprecedented processing and storage power, and he accentuates how new technological advances, within, for example, artificial intelligence, the Internet of Things, and automation, will multiply the possibilities. In short, an exponential change is taking place; it is not, simply, an extension of the “digital revolution”; rather, the velocity, scope, and systems impact is immense – changing the ways we live, work, and relate to one another, Schwab explains (Schwab 2016).

The creative industries, naturally, also have a part to play in the 4.0 industrial era and more and more of these industries have (already) begun to adopt and develop their “products” or “services” using new or being inspired by technological possibilities, indeed, characteristic of the 4.0 industrial era. Nation branding, promoting travel destinations to attract tourists, is an interesting example, we think, of this new trend. Hence, communicating, digitally, to potential consumers, brand makers leverage technologies such as 360-degree virtual reality (VR) movies, involve big data analysis and user generated content, in order to brand nations and already there, digitally, to make possible the first meeting with the travel destination as “an experience” (see also Cheregi 2018).

We are not, of course, interested in this inspiration from the 4.0. industrial era technologies in themselves or, we can say, these technologies understood as systems in technical terms. We understand, rather, firstly, that technologies will, no matter how sophisticated or cutting-edge they may be, always and already, be culturally produced, distributed as well as consumed; hence, technologies are, always and already, part of a cultural context (a context which they may, of course, partly, change), cultural relations, and cultural practices. Secondly, technologies can only be culturally produced, distributed, and consumed if they are meaningful – technologies, then, must mean something to somebody, or technologies must be integrated, culturally, in meaningful relations to, for example, individuals, groups, communities, and nations (Jensen 1994: 12). Looking at how brand makers/utterers, digitally, promote travel destinations through the use of 4.0 industrial technologies also opens up to, then, and this is what we are interested in here, a study concerning how cultural contents are conveyed meaningfully. Such an opening calls for, we believe, a certain study, namely, semiotics. Studying semiotics concerns the systems, functions, and uses of signs, and, since the 1950s, at least, semiotics has, more (or less) systematically, been applied, theoretically

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<sup>†</sup> Previous to the 4.0 industrial era are: Industry 1.0 – concerns the transition from production via methods of the hand to machines using steam power and water power; industry 2.0 – involves the development of railroad networks, the telegraph, and factory electrification; industry 3.0 – a transfer from analogue and mechanical technology to digital technology.

and methodologically, to a very heterogenous field of phenomena resulting in, for example, first, cultural semiotics (from the 1950s) and media semiotics (from the 1960s), and later in technology semiotics (from the 1980s), and later again, semiotics of branding (from the 1990s). These areas of semiotic application will, of course, sometimes come to overlap or intersect; however, to the best of our knowledge we do not know of any “semiotic attempt” to analyze and explain how nation branding, digitally, promote travel destinations, inspired by 4.0 industry technologies, to convey culturally meaningful contents. It seems, we believe, that such an attempt will be placed, theoretically and methodically, in relation to the before-mentioned areas of application, concerning, then, cultural semiotics, media semiotics, technology semiotics, and, as well, semiotics of (nation) branding. In any case we will allow ourselves, here, to be rather eclectic. Hence, we will select semiotic notions and methodology from different semiotic “schools and/or branches” without thinking about whether these, for example, have complimentary or even contradictory theoretical presuppositions (which should be resolved if possible, in the first place). Instead we will, simply, try to “apply, and observe, and, then, explain” – to see where this will bring us.

Furthermore, in the following, we will not, firstly, describe the semiotic notions and methodology in a (longer) separate subparagraph, and, then, secondly, analyze and explain how nation branding, digitally, promote travel destinations, inspired by the 4.0 era, to convey culturally meaningful content. Rather, we will try to begin in medias res with our object of study; this in an attempt to achieve a more “natural” and continuous flow of study; not saying that there will not be “longer passages” concerning semiotics “as such”.

In order to analyze and explain how nation branding, digitally, promotes travel destinations, inspired by the 4.0 era, to convey culturally meaningful contents, and, thereby, also, hopefully, to demonstrate the fruitfulness of semiotics in this respect, we will focus on the website “[visitjapan-europe.jnto.go.jp](http://visitjapan-europe.jnto.go.jp)” launched by the Japan National Tourism Organization. This website, under the slogan of “Japan – where tradition meets the future”, was designed to promote inbound tourism from Europe and it still is a central media platform of the national Japanese branding efforts.

We have chosen the “[visitjapan-europe.jnto.go.jp](http://visitjapan-europe.jnto.go.jp)” website, as our object of study, because this website, indeed, points toward the Zeitgeist of the 4.0 era, by using, for example, 360-degree VR movie materials/technology, and by including a travel planner for the visitors of the website, in line with how planning and decision making, more and more, in the 4.0 industrial era, rely on computer algorithms finding the highest sophistication, of course, in relation to Artificial Intelligence (AI).

Furthermore, via this website, Japan is showcased as a nation which, successfully, mediates between modernity and tradition (and we will try, semiotically, to demonstrate how) – which, perhaps, can seem, somewhat, paradoxically, in an era, with omnipresent disruptions, stemming from the 4.0 technologies, effecting, for example, indeed, the way in which cultures organize, develop, make sense of the world, and communicate.

**Japan National Tourism Organization (JNTO) – “Japan – Where tradition meets the future”**

In 2016, as an effort to brand Japan as a travel destination for European tourists, the Japan National Tourism Organization (JNTO)<sup>‡</sup> launched a large-scale campaign targeting 15 countries, including UK, France, Germany, Italy, Spain, and Sweden, through different media (the internet and television as well as cinema). The campaign was named “Japan – where tradition meets the future” and the campaign is still running today with new media contents being added continuously. We can understand the branding campaign of JNTO as an attempt to create a unique identity/image of Japan as a nation, and, thereby, to provide potential European tourists with, hopefully, positive initial impressions, followed by their choice of Japan as travel destination. Or, formulated differently, JNTO aim to stimulate the “European” awareness of Japan as a travel destination by influencing perceptions and create positive associations about the brand. We must assume that the campaign, to a certain degree at least, has succeeded in doing exactly that, or why else, we can ask rhetorically, did the organization let it continue for almost three years now? It is true, in any case, that the movie which kicked off the branding campaign in 2016, for example, has more 1,2 million views on All About Japan’s Facebook page alone as of 26 July 2019. Central in the campaign of JNTO is the website “visitjapan-europe.jnto.go.jp” (henceforth VJEW). The VJEW involves 360-degree VR material, a travel planner, user generated content, and the possibility for visitors of social media communication. It seems, therefore, that the campaign of JNTO and its VJEW is a part of a new digital trend, where nations are branded, to become stronger as travel destinations, via leveraging or by being inspired from technological possibilities which are characteristic of the 4.0 industrial era. It is interesting, indeed, to see, how the Slovenian Arctur’s Research and Innovation Department capture what is, now, called “Tourism 4.0”. They write as follows:

Tourism 4.0 creates seamless journeys, it leverages 4.0 Industrial Revolution technologies, such as artificial intelligence, internet of things, big data analysis and cloud computing. (Tourism4-0.org; contrived on the 27<sup>th</sup> of July)

It is our impression that the creative industry doing digital nation branding is “not quite there yet”; nevertheless, we think that, the campaign of JNTO and its VJEW is a (small) sign, for example, of a “new beginning” with affinity to the above mentioned “vision of Tourism 4.0” described by Actur.<sup>§</sup> By branding Japan as a travel destination, JNTO uses signs, which make up messages and texts – only so can any thought on, experience of, and communication about, Japan, namely, have form and meaning. Already Charles Peirce has argued convincingly that: “we have no power of thinking without signs.” (EP I: 30\*\*). One important consequence of this statement is, in short, that signs are media, but, also, that media are signs. A fact that can easily be overlooked as media expert and semiotician Marcel Danesi aptly accentuates because the signs and meaning structures of the media: “seem so natural...to us...the media we make are unconscious extensions of our inbuilt sensory and cognitive processes.” (Danesi 2018:

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<sup>‡</sup> The Japan National Tourism Organization describes itself as: “...involved in a broad range of activities both domestically and worldwide, to encourage international tourists from all over the world to visit Japan.” (<https://www.japan.travel/en/about-jnto/> contrived on the 27<sup>th</sup> of July).

<sup>§</sup> Another example pointing in this direction is the series of 360-degree VR videos launched via the Australian Tourism website: <https://www.australia.com/en>

\*\* We refer to *The Essential Peirce* in the standard way: Volume number followed by page number.

3). So, if the VJEW is “full of signs”, then, in order to be meaningful at all, and we do believe that it is, to apply semiotics, or the study of signs, seems called for – in order to understand the cultural content communicated under the slogan “Japan – where tradition meets the future”.

### **The semiotics of VJEW or communication of cultural meaning**

Inspired by the semiotics of Charles Morris we can understand the Visit Japan Europe website (the VJEW), most fundamentally, as semiosis. According to Morris, semiosis involves three elements:

...that which acts as a sign, that which the signs refer to, and that effect on some interpreter in virtue of which the thing in question is a sign to that interpreter.

These three components in semiosis maybe be called, respectively, the sign vehicle, the designatum, and the interpretant. (Morris 1938:3)

Hence, we can say, that the VJEW, firstly, qua sign vehicle, has a (complex) sign character, parts of it acts as signs, secondly, there are objects (real or imagined) to which the website refers (designatum), and thirdly, the website has a (possible) effect of an interpreter. With affinity, also inspired by Morris, and his division of semiotics into syntactics, semantics, and pragmatics (cf. Morris 1938: 6-7), we can presuppose that the website has three, overall and interrelated, semiotic characteristics, namely:

- The website has an (internal) structure
- The website communicates meaning
- The website is part of a communication context

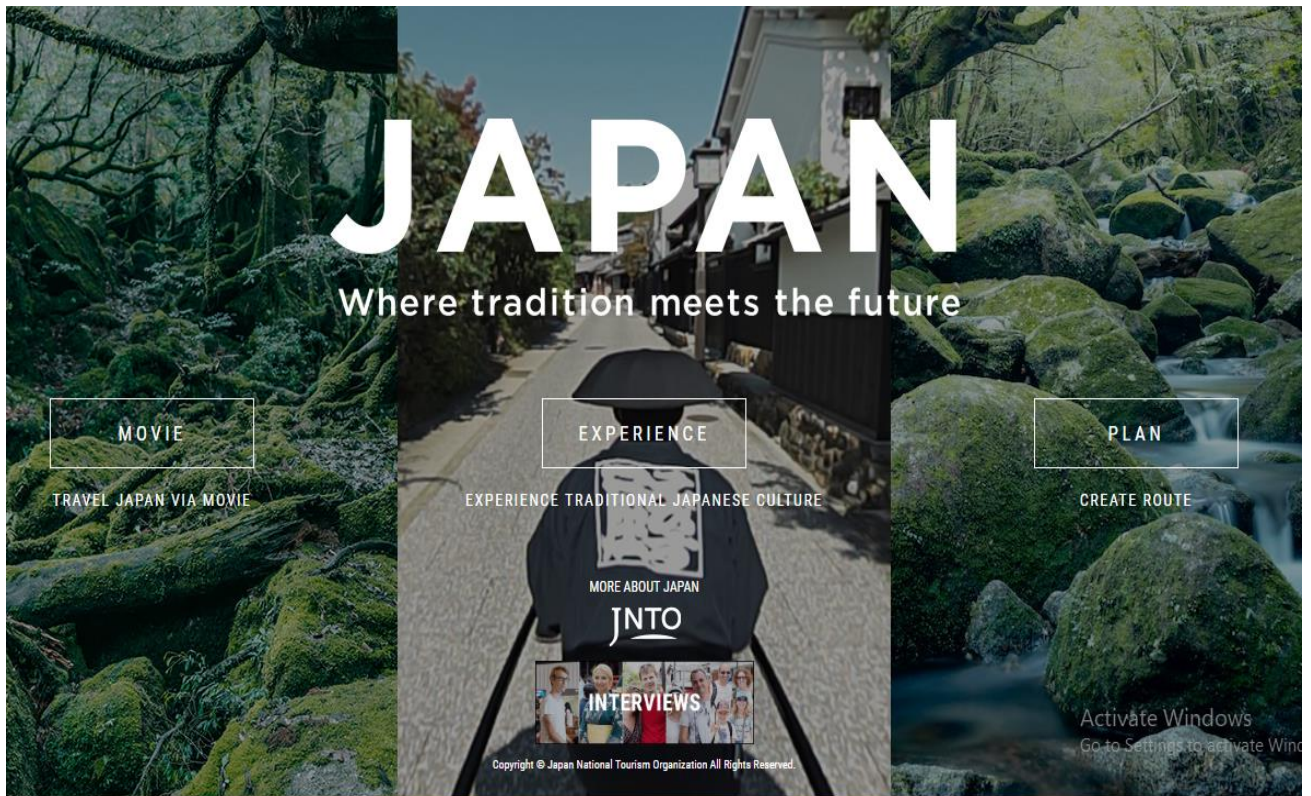
In the following we will focus on, as already described in the introduction, the culturally meaningful content of the website. Or, formulated differently:

- We will focus on, the second-mentioned semiotic characteristic, “the website communicates meaning”, seen from the perspective of, in particular, the 360-degree VR material and the travel planner of the VJEW

However, the communication of meaning is, of course, closely, related with both the “(internal) structure of the website” and the “communication context of the website”. For example, the website must involve visual elements, relations, and systems, which make the generation of meaning possible, in first place. Furthermore, as a part of a nation branding campaign, the website has a certain goal of communication: The website must capture attention, create (positive) comprehension and emotions, and get action (affect the viewer to travel to Japan as a tourist); this goal, influences, for example, the way in which the viewer is foreseen by the website to be able to actualize/infer its various meaning content. Hence, both the (internal) structure of the website as well as the communication situation in which the website exists, contribute to the total meaning of the website. Therefore, when we find it relevant, we will, also, take a brief look at the (internal) structure of the website as well as its context of communication. When we speak about the VJEW’s communication of meaning we refer to, as will hopefully become clear later, the way in which the website represents content from a cultural repertoire; hence, our focus will be on the signifying order or the network of meaning structures which the website, through the 360-degree VR material and the travel planner, constitute. The questions are, therefore, from the perspectives of 360-degree VR movie and the travel planner, as follows:

- What meaning does the VJEW communicate?
- In what way(s) does/do the VJEW exemplify what it means?
- Why does the VJEW mean what it does?

Let, us now, then, turn our attention to the VJEW. Firstly, a few immediate observations of what meets the viewer of the VJEW seem to be in order.



Picture 1

The initial page (main page) of the [visitjapan-europe.jnto.go.jp](http://visitjapan-europe.jnto.go.jp) website (VJEW).

With reference to the semiotics of print advertising we can say that the initial page of the VJEW (or main page) is composed of three fields of meaning (cf. Alsted and Larsen 1991), namely, images, a headline, and texts. The headline states, “Japan – Where tradition meets the future”; three images, in the background, with motives from the traditional, modern, and natural attractions of Japan divide the initial page into three equally sized rectangles. Each image is endowed with two texts – a headline (framed within a rectangular box with thin lines) and a subtext. The three headlines and their subtexts read from left to right: 1) MOVIE – Travel Japan via movie, 2) EXPERIENCE – Experience traditional Japanese culture, and 3) PLAN – Create route. The three images are active; not surprisingly, they correspond with three content pages according to the three, just mentioned, headlines. However, even without activating any of the three content pages we can already observe a natural order of events going from left to right: The movie will, initially, set the scene of Japan as a travel destination; then the 360-degree VR movie will allow the viewer to become immersed (further) in relation to, for example, places, plots, and characters. And, finally, the viewer can use the travel planner and, thereafter, actually decide to visit some of the attractions. This order seems to represent, then, a possible movement from the abstract to the (possible) concrete, where the viewer, in the end, by actually traveling to Japan, will experience some of the, as we later will call them (with Eco), cultural content “come alive”. The order, almost, seems to capture, we can say, a pragmatic concept of meaning with Peirce, where

meaning concerns the conceivable experiential consequences of the sign (CP 5.2<sup>††</sup>). In any case, the viewer of the VJEW faces a semiotic structure, or a variety of signs and sign relations, which, initially, promises him/her a unique perspective on the traditional, modern, and natural attractions of Japan. Central to the possibility of redeeming this promise are the 360-degree VR movie and the travel-plan maker. We will activate the fields of meaning (images), then, which refer to these two content pages, and leave out of this paper, the MOVIE – Travel Japan via movie; this is because, as already mentioned in the introduction, we believe that 360-degree VR movie and the travel planner have a clear reference to the *Zeitgeist* of the 4.0 Industrial Era. We will begin with looking at the 360-degree VR movie.<sup>‡‡</sup>

### **The 360-degree VR movie – “Japan – Where tradition meets the future” and its (possible) cultural meaning(s)**

The 360-degree VR movie – “Japan – Where tradition meets the future”, has a running time of 3 minutes and 10 seconds. The movie is described on the website as “Japanese tradition, modernity and nature packed into a realistic 360-degree VR movie”. Hence, it is the purpose of the movie to take the viewer on virtual tour of Japan. The movie is an audiovisual<sup>§§</sup> simulation of a substituted environment. The movie concerns live-action recordings and the view is recorded simultaneously in multiple directions; the events in the movie take place from the position and the perspective of the camera (see also Sheikh et.al. 2016). However, the viewer can influence the viewing experience by moving his/her head in order to take different camera angles (see also Conroy 2017) – from front, left, back, right, bottom, and top. This allows the viewer to feel immersed while a fixed, linear story unfolds and, thereby, to be an active viewer; in short, the viewer will experience, to a certain degree, a feeling of “being present” or “being there” (Elmezeny et.al. 2018).

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<sup>††</sup> We refer to the *Collected Papers of Charles Sanders Peirce* in the standard way: Volume no. followed by paragraph number.

<sup>‡‡</sup> For the best viewing experience, the VJEW recommends using VR goggles such as Google Cardboard.

<sup>§§</sup> In the following, we will not touch upon the audio of the movie; a full semiotic analysis of a movie should, of course, also involve how audio contributes to its semiosis; this, however, is simply not within our area of expertise.



Picture 2.  
The content page involving the 360-degree VR movie.

This brief description tells us, already, that the 360-degree VR movie is, no doubt, a complex semiotic phenomenon. Needless to say, perhaps, the 360-degree VR movie is a complex mixture of a combination of visual, verbal, auditory, and locomotive signs, codes, and systems, which, for example, make a temporality possible, where the shots, to a certain degree, form a narrative sequence. Since the 1960s the semiotics of film, which covers different schools, topics, and trends (see Nöth 1995), for example, has tried to search for the filmic sign, structures of a filmic code, and/or the mental activities of the viewer (Moth and Sørensen 2007). These much-specialized studies within applied semiotics will not, however, at least directly, concern us here. What we are interested in is the (possible) meaning communicated by the 360-degree VR movie, and we will try, initially to go another way with Umberto Eco. Hence, Eco has argued for the importance of the concept of encyclopedia within semiotics (see for example Eco 1984 and 2014), and we believe that this concept can help us to understand, more precisely, meaning as a semiotic category in relation to the 360-degree VR movie. According to Eco, then, the encyclopedia is, firstly, a vast and multidimensional space of signification and communication; secondly, the encyclopedia is a system of sharable cultural knowledge, and it underlies the very possibility of the generation and interpretation of signs within communicative contexts; therefore, and thirdly, every communicative activity will, with necessity, refer to elements which make up the encyclopedia (Desogus 2012; Davidsen 2007). A part of the encyclopedia concerns, indeed, cultural units, which, also, are the meanings of signs. The cultural units are defined by Eco in the following way:

The cultural units stand out against society's ability to equate these signs with each other,  
cultural units are the semiotic postulate required in order to justify the very fact that society

does equate codes with codes, sign-vehicles with meanings, expressions with contents.

Unseen but used by the layman, they are not used but seen by semiotics, which is simply the

science of this culturally performed (if unexpressed) competence. (Eco 1976: 72)

Furthermore, we must remember how the cultural units, and thereby meaning, concern a certain semiotic process, which Eco finds in the writings of Peirce, namely, “infinite semiosis”, where signification and communication follows a certain logic, Eco explains how:

The encyclopedia is dominated by the Peircean principle of interpretation and consequently unlimited semiosis. Every expression of the semiotic system is interpretable by other expressions, and these by still others, in a self-sustaining semiotic process. (Eco 2014: 51)

Due to this semiotic logic (of infinite semiosis) it is not possible to give a full or definitive representation of the (maximal) encyclopedia (and, for example, its cultural units). Eco therefore writes: “...an encyclopedic representation is never global but invariably local, and it is activated as a function of determined contexts and circumstances.” (Eco 2014: 52). Yet, if we want to give an account of the meaning communicated via the 360-degree VR movie we still (also) have to address the concept of encyclopedia, because as Eco accentuates: “The encyclopedia is the only means we have of giving an account, not only of the workings of any semiotic system, but also of the life of a given culture as a system of interlocking semiotic systems.” (Eco 2014: 50). This also goes for, we believe, the 360-degree VR movie as a sign of culture, even though, of course, the cultural contents, and thereby meaning, comes about, in the first place, in relation to the activities of nation branding in order to attract tourists. As a consequence, then, of Eco’s description of the encyclopedia, we can understand the 360-degree VR movie:

- as a local and unique, but not necessarily creative, representation of a highly complex and maximal encyclopedia concerning everything which has ever been or, in theory, can be, thought, said, or otherwise communicated about Japan and its culture
- and its (possible) meaning (paraphrasing Eco who is not speaking of movies) is a function of a rich cultural format, or a universe of cultural units, and thereby meaning, organized into networks of interpretants according to the Peircean principle of infinite semiosis (Eco 1984: 127)

Hence, and methodologically speaking, in order to understand the (potential) meaning of the 360-degree VR movie, we must try to learn from the words of Eco to: “identify portions of encyclopedias that can be activated...as they serve to construct...manageable networks with a view to interpreting and explaining the interpretability of certain segments of discourse.” (Eco 2014: 50). As mentioned before, our focus here will (first and foremost) concern the meaning (or cultural units) communicated by the 360-degree VR movie. However, how do we find, in the first place, a route into and within this local encyclopedia which the 360-degree VR movie represents?



Picture 3  
A screen shot from the 360-degree VR movie – “Rickshaw”.

Let us, firstly, for analytical purposes, try to focus on the (most) simple, or perhaps better, primary, meaning level of the visual, illustrative material of the 360-degree VR movie. It means that we will ask ourselves, when viewing, what, where, who, and how. The list of possible answers concerns, with a reference to Roland Barthes, the denotative level of meaning (Barthes 1977), or, perhaps, where the camera is pointed, rather than, how it is pointed (Barthes 1977). Barthes, knowing, and we with him, that (almost) any argumentation for the existence of a denotative level of meaning concerning “visual material” is problematic; nevertheless, he writes, that this level of meaning concerns:

a literal message...a sufficient message...it has at least one meaning at the level of the identification of the scene represented...the denoted image can appear as a kind of Edenic state of the image. (Barthes 1977: 42)

So, let us try, therefore, to describe the view(s) of the 360-degree VR movie from the denotative level of meaning, or, the level of the “identification of the scene”, using, with Barthes, “solely” our anthropological knowledge. Our description concerns viewing the video following the fixed, linear story, without, here, making use of the possibility of “spatial inquiry” – or looking around the environment (see also Elmezeny et.al. 2018).

The movie opens with a view of a tower in a city. Hereafter, the viewer moves through a passage in a green area; the passage is made of red and orange wooden pillars. Moving through the passage, the viewer enters a forest, where a woman and a man are walking towards the viewer. When the woman and the man are in front of the viewer, they stop and they look at him/her; then the woman spins around an umbrella. Next, the viewer is looking out from the back of a rickshaw. The rickshaw is pulled by a man, and the viewer is driving up the narrow street, between houses, in a town. Hereafter, the

viewer finds him/herself in a busy zebra crossing in a city; it is night, high buildings and electric billboards are seen. Next, the viewer is in a game arcade; a young man is lifting up a plush toy within a glass case with a play crane. Thereafter, the viewer is moving back from the inside of a red and black dotted sculpture through a hole in its side. The viewer, first, pauses, then he/she moves back again into the dark of the sculpture through the hole. Next, the viewer sees three male actors dancing in front of him/her on a dark stage. One actor, in the foreground, is looking into the eyes of viewer. Hereafter, the viewer watches some deer in a park which are being handfed by a couple of elderly people. Next, the viewer is standing in front a robot in a spacious lobby; the robot is looking at the viewer and waves at him/her; the robot also speaks to the viewer. Then, the viewer is in a sushi restaurant; a chef is preparing a plate; he puts the plate on a conveyor belt; via the conveyor belt the plate is being transported through the restaurant; eating customers are sitting along the conveyor belt. Next, the viewer is in a café; the café is colorful with an oversized interior; a waitress is being handed a tray; the waitress carries the tray to the table of a group of young people sitting in a booth; when she places the tray on their table, the group applauds her. Thereafter, the viewer is in a traditional Japanese house; a woman, in a costume, is dancing in front of the viewer while she is waving fans. Then, the viewer is standing behind two men sitting on a porch; in front of the two men stands a third man; the third man is holding a stick in his hands; he is bowing to one of the men sitting down; the sitting man is bowing back at him. Thereafter, the viewer is in a house, where a ring is marked on the floor; inside the ring there are men only wearing underwear; two of the men begin to try to force each other out of the ring. Finally, the viewer is watching two people, a man and a woman, walking on a finger of land at the sea.

Hence, we have activated a portion of, with Eco's terminology, the encyclopedia, and thereby, registered some (denotative) cultural content, and thereby meaning, instituted by the 360-degree VR movie itself. For a simple overview of the denotative meanings and a later analytical purpose, let us organize, these meanings, however, into four categories, corresponding with our viewing from the perspectives of "what, where, who, and how" – and let us add the film theoretical category of "shot", understood as, in the words of Monaco: "physically...as a single piece of film, without breaks in the continuity of the action." (Monaco 1977: 104). Hence, this gives us the following tentative table:

Movie shot	Setting	Central object(s)	Character(s)	Story
1. Shot	A city	Tower	-	Viewing a tower, located in a city
2. Shot	A green area	Pillars, a passage	-	The viewer is moving through a passage of red and orange pillars
3. Shot	A forest	Trees, a path, an umbrella	A man and a woman	The viewer is moving through a path in a forest, a woman and a man are approaching the viewer; they stop in front of the viewer, and the woman

				spins an umbrella
4. Shot	A town	A street, houses, bushes, and a rickshaw	A man	The viewer is being pulled in a rickshaw by a man, going through the street of a town
5. Shot	A city	Tall buildings, a zebra crossing, electric billboards	Numerous people	The viewer is in a city; he/she is standing before a busy zebra crossing full of walking people
6. Shot	An arcade	A glass case, a game crane, a plush toy	Two young men	A young man is, smilingly, picking up a plush toy from a glass case with a play crane
7. Shot	A port	A large red sculpture with black dots	Two young men	The viewer, first, moves back from the inside of a red and black dotted sculpture, through a hole in its side; then, the viewer pauses, where after, the viewer, again, moves back into the inside of the sculpture through the hole
8. Shot	A theatre scene	-	Two male actors	Two male actors are dancing on a dark stage in front of the viewer
9. Shot	A park	Trees, bushes, a lawn	Two elderly people	Two elderly people are handfeeding deer in a park
10. Shot	A spacious lobby	A robot	A robot, several people	A robot is standing in front of the viewer; the robot is looking at the viewer waving its arms at him/her; the robot is speaking to the viewer
11. Shot	A sushi restaurant	Plates, a conveyor belt	A chef, customers	A chef is preparing a plate and puts the plate on a conveyor belt; the plates are being transported by the conveyor belt through the

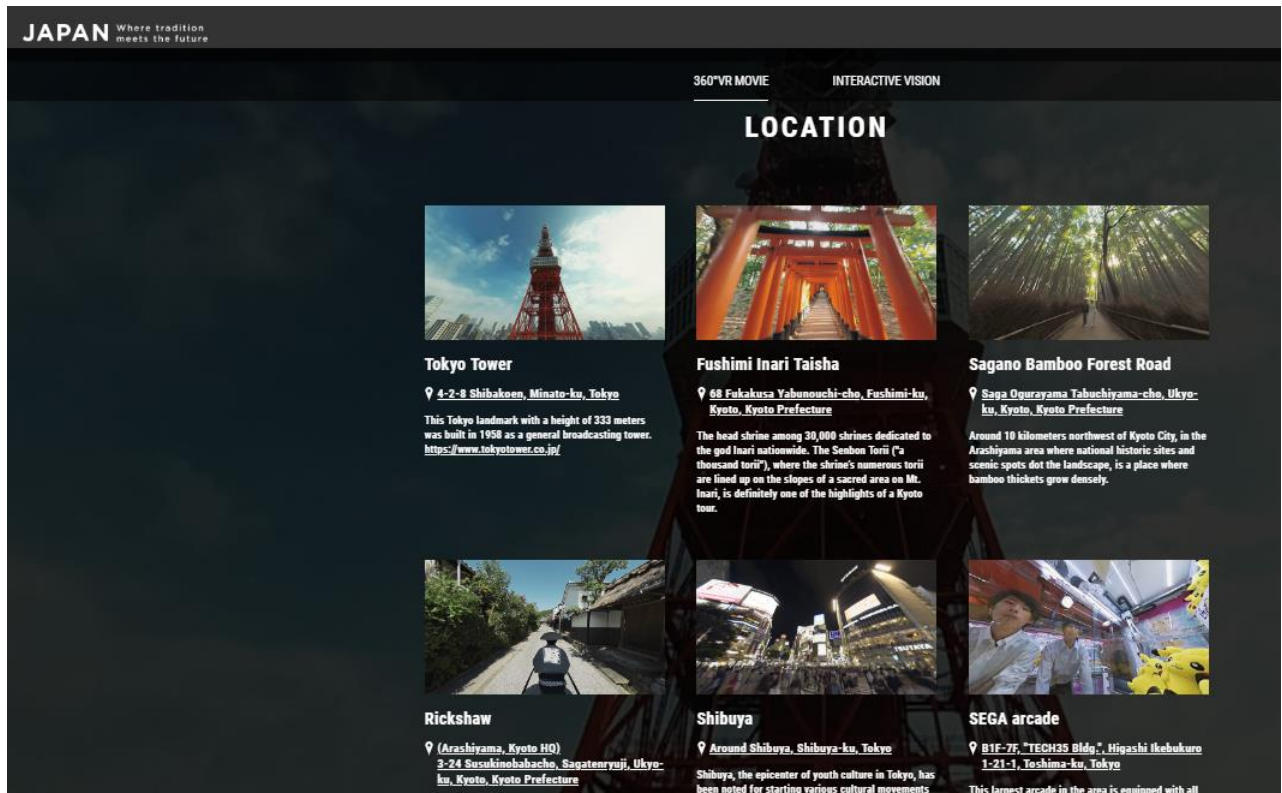
				restaurant; there are eating customers sitting along the conveyor belt
12. Shot	A café	A tray, colorful, oversized interior, for example lamps, in a café	Waitresses, customers	A tray is being handed over to a waitress in a costume; the waitress carries the tray through a café and to a group of young people sitting at a table in a booth; when the group receives the tray, they applaud the waitress
13. Shot	A traditional Japanese house		A woman	A woman in a traditional Japanese dress is dancing in front of the viewer; she is waving fans
14. Shot	A porch in front of a yard	A porch, a yard, a gate, benches	Three men	Two men are sitting down on a porch; a third man is standing in front of the two men; he is holding a stick; he is bowing to one of the two men sitting down, and, then, he points the stick at him
15. Shot	A house	A ring marked on the floor	Three men	Three men, wearing only underwear, are exercising; then, two of the men begin to force each other out of a ring marked on the floor
16. Shot	At the sea	-	A man and a woman	A man and a woman are walking on a finger of land by the sea

Table 1.

An overview of the denotative meanings of the 360-degree VR movie seen from five categories.

This is, it seems, the immediate, concrete, or “literal” level of meaning of the 360-degree VR movie. Or, we have tried to describe the movie from the Barthian “level of identification of the scene”. However, there must be, surely, (much) more to the meaning communicated by the 360-degree VR movie – already indicated by the fact, that

we, before, sometimes, have balanced on the edge of denotation, for example by not only mentioning “trees”, “men”, and “women”. Therefore, how do we move further into the, possible, encyclopedia, and its networks of possible cultural content, and, thereby, the meaning communicated by the movie? Scrolling down, however, the content page where the 306-degree VR movie is located, seems to give us, at least, a partial answer, to the question. Below the movie we find, namely, 16 images accompanied by a short text.



Picture 4.

Location – images, accompanied by short texts, corresponding to the 16 shots of the 360-degree VR movie.

The images, underneath the headline of “Location”, indeed, correspond with the 16 movie shots which we have described concerning the denotative level of meaning. Hence, it seems only appropriate to consult Barthes once again when he explains the possible semiotic relations between image and text. Barthes writes that there are two fundamental relations that exist between image and text – anchorage and relay. In anchorage, he accentuates:

...the text directs the reader through the signifieds of the image...It remote controls him towards a meaning chosen in advance [whereas in relay] text and image stand in a complementary relationship; the words, in the same way as images, are fragments of a more general syntagm and the unity of the message is realized at a higher level. (Barthes 1977: 40-41)

It is reasonable to assume, then, that the text accompanying the 16 images, below the 360-degree VR movie, has a function of anchorage concerning the meaning of the movie. Or, remembering Eco, we can say, that the texts represent, describe, and, perhaps, circumscribe parts of the meaning of the movie, working as interpretants, or cultural content. Our next step should be, therefore, to represent, and this will make up a

part of a local encyclopedia, the meaningful relations between the 16 movie shots and the text below the images. However, in order to do that we will first understand the 16 movie shots from three, overall, relations; these relations we know as associative relations stemming from the theory of de Saussure. He writes, as a linguist, about words, but the relation can be extended (probably) to every semiotic system:

Outside the context of discourse, words having something in common are associated together in memory. In his way they form groups, the members of which may be related in various way. (de Saussure 1995: 170)

Associative relations – later called paradigms by semioticians after de Saussure – are in absentia; they form groups of semiotic units which have something in common; or, the semiotic units must share certain characteristics determining their membership of the group. So, using this principle we can look for the overall relations which lay behind the 16 movie shots. And, again, the content page itself gives us an answer, when we remember how the 360-degree VR movie is described as “Japanese tradition, modernity and nature packed into a realistic 360-degree VR movie”. Hence, here we have three possible paradigms, namely, Japanese tradition, Japanese modernity, and Japanese nature. With affinity, we can (re)group the 16 images representing the movie shots in relation to the paradigms. This gives us the following table, where we have added the headline names of the images:

Movie shot	Name	Paradigm
No. 2	Fushimi Inari Taisha	TRADITION
No. 4	Rickshaw	TRADITION
No. 8	Kabuki	TRADITION
No. 13	Maiko	TRADITION
No. 14	Zazen	TRADITION
No. 15	Sumo	TRADITION
No. 1	Tokyo tower	MODERN
No. 5	Shibuya	MODERN
No. 6	SEGA Arcade	MODERN
No. 7	Red Pumpkin	MODERN
No. 10	Pepper	MODERN
No. 11	Sushi-Go-Round	MODERN
No. 12	Kawaii Monster Café Harajuku	MODERN
No. 3	Sagano Bamboo Forest Road	NATURE
No. 8	Nara Park	NATURE
No.16	Angel Road	NATURE

Table 2

The 16 movie shots seen from the perspective of three different paradigms: Tradition, Modern, and Nature.

Hence, movie shot numbers 2, 4, 8, 13, 14, and 15, for example, belong to the same paradigm, or, with de Saussure, the same associative set; the movie shots share a function, they can occur in the same communicative context – they can all represent, or stand for, Japanese tradition. After this simple maneuver, let us return to the short texts below each image in order to understand these texts (or parts of these), with Eco, as a (small) universe of cultural units, and thereby meaning, organized into networks of

interpretants, representing the movie shots. Again, we will make a simple representation, this time in a graphical form, from the perspective of the three paradigms – Japanese tradition, Japanese modernity, and Japanese nature – Hence:

A representation of the relation between movie shots and cultural content organized into a network of interpretants, where a part of a (local) encyclopedia is instituted by the VJEW concerning a “Japanese tradition paradigm”:



Figure 1 Tradition

A representation of the relation between movie shots and cultural content organized into a network of interpretants, where a part of a (local) encyclopedia is instituted by the VJEW concerning a “Japanese modernity paradigm”:

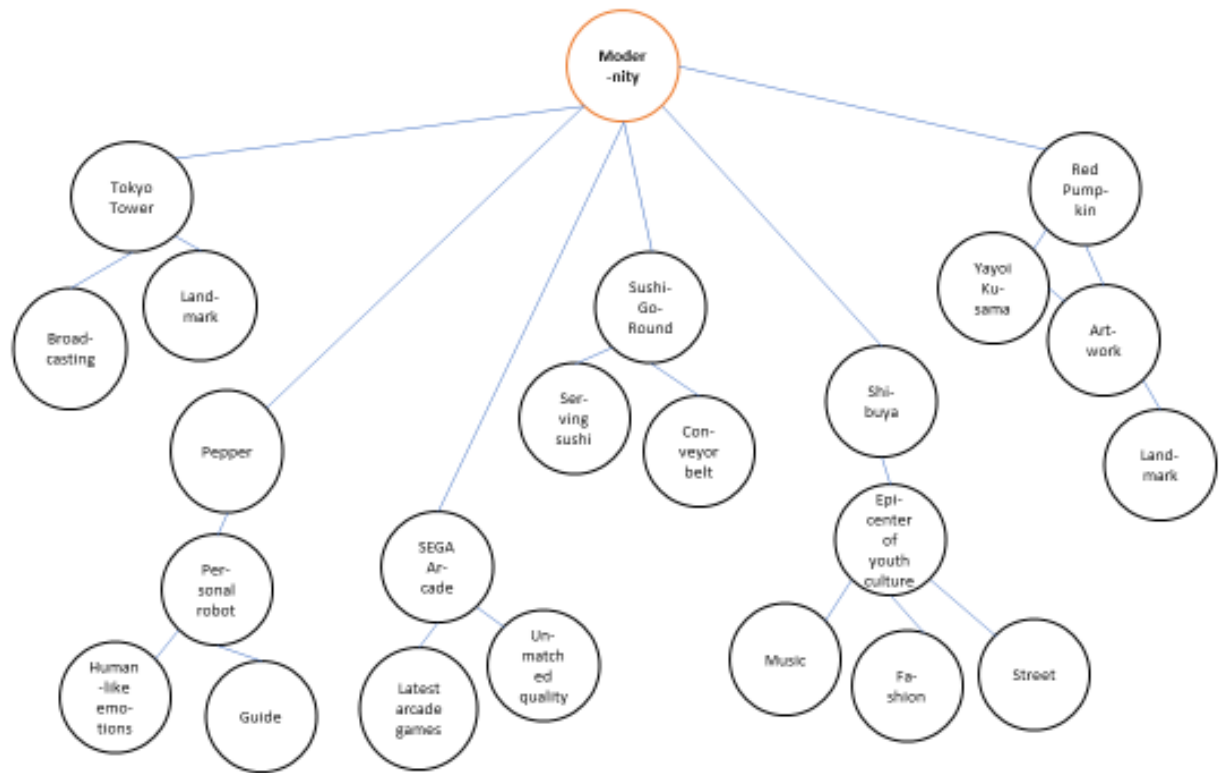


Figure 2 Modernity

A representation of the relation between movie shots and cultural content organized into a network of interpretants, where a part of a (local) encyclopedia is instituted by the VJEW concerning a “Japanese tradition paradigm”:

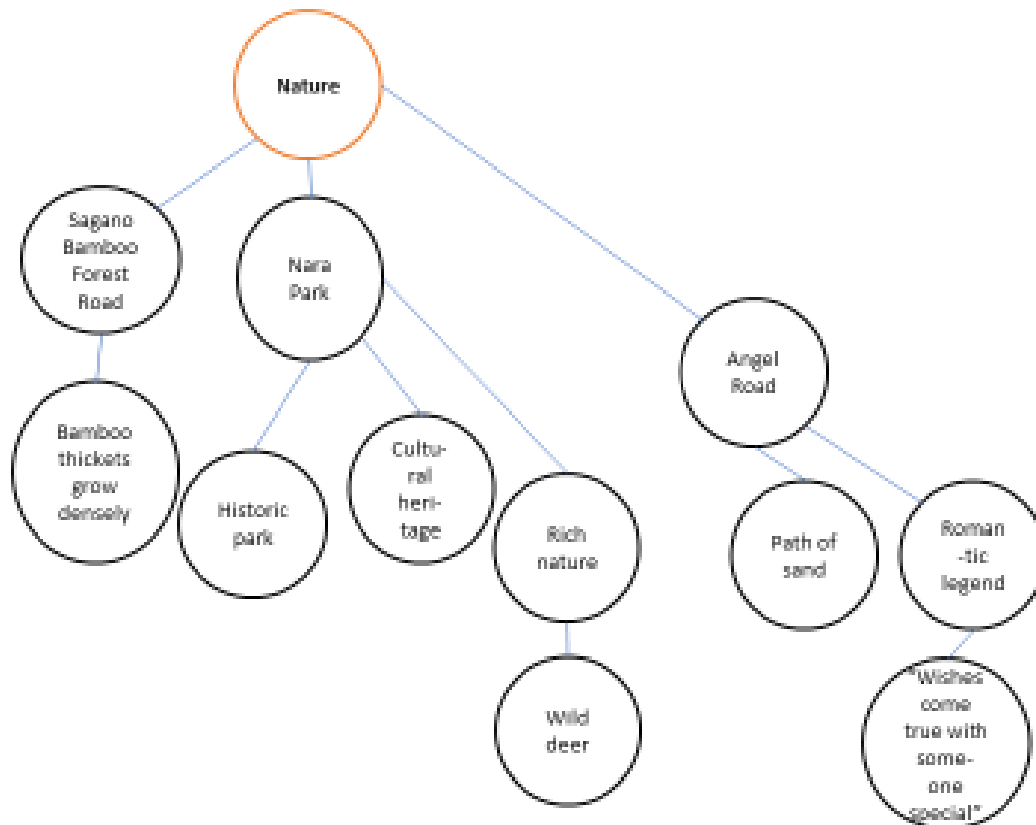


Figure 3 Nature

Admittedly, these graphical representations of the cultural content stemming from the short texts below the images do not add much more meaning to the movie shots. We can, however, according to our, with Peirce, “collateral observation”, or previous experience with the signs (EP II: 494), try to derive additional meaning from the movie shots. This additional level of meaning Barthes would understand as the connotations of the movie shots; or the (more abstract) ideas and values expressed through the represented and how it is represented (Barthes 1977: 23). Looking at the three different paradigms, an interesting question arises, therefore, we believe, because what is the semiotic relationship between the paradigms and how can we understand the connotative meaning(s) of the 360-degree VR movie, if we can locate such relationships? Firstly, let us say, that the slogan of the VJEW sets our focus – “Japan – Where tradition meets the future”, and, secondly, that we will allow ourselves, in correspondence with one of the paradigms, to substitute the word “future” with the word “modernity” – hence, we will focus on the relationship between the two paradigms tradition and modernity (and, thereby, leaving out of the question the paradigm concerning Japanese nature). With affinity, it seems worth to remember a structuralistic point stemming from Claude Levi-Strauss. According to Levi-Strauss (a) culture and its processes of signification and communication is related to a limited number of semantic categories which stand in relations of opposition (for example life vs. death and nature vs. culture); these distinctions, involved in the semantic opposition, will lay behind and organize relations between expressions and (cultural) contents on the (for example, narrative) surface level (Levi-Strauss 1979). With Levi-Strauss we can say, then, that the 360-degree VR movie articulates a part of such a cultural deep structure – in relation to

“tradition versus modernity”. However, the before mentioned slogan “Japan – Where tradition meets the future” (modernity) postulates a solution to the (possible) cultural conflict between tradition and modernity – because it is in Japan that they meet (tradition and modernity)! Yet, the slogan must involve more than a mere meeting; it must involve mediation and contact, we can say with Peirce. Only, in this way, can Japan be an interpreting sign between tradition and modernity. Hence, again, inspired by Peirce, we can say:

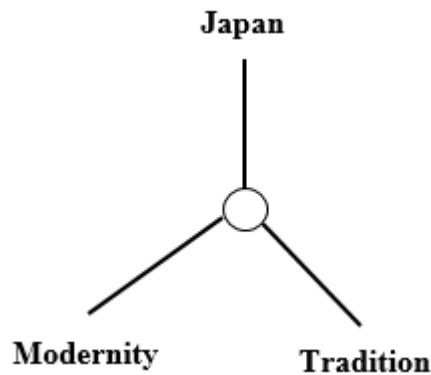


Figure 4

Japan, as a nation, mediates between tradition and modernity

As a consequence, if this triad is genuine and true, it means, for example, that Japan both involves tradition and modernity; obviously it does, but, furthermore, that modernity involves tradition and that tradition bears the seeds of modernity (as a contrast to the idea of cultural paradigmatic shifts). However, the slogan is just a postulate some might say. Therefore, can we find any signs of this mediation or contact between tradition and modernity in the 360-degree movie VR movie “itself”? Looking at the movie as a medium, we believe that we can find some signs – that is, looking at the narration of the movie and the way in which, then, its fixed, linear story unfolds, and, thereby, underpins the meaning of the movie, and its cultural content. Yet, more precisely, where and how will we look for these signs? We will look for signs of contact between tradition and modernity. Therefore, let us return to table 2. In table 2 we have already organized the different movie shots in relation to the paradigms where they belong. The next thing to do, is, to look at the transitions between the two paradigms, tradition and modernity, seen from the perspective of the movie shots. Hence, this gives us the following table with transitions:

<b>First transition</b>	
From	To
Shot no. 1	Shot no. 2
Tokyo Tower	Fushimi Inari Taisha
Paradigm MODERNITY	Paradigm TRADITION
<b>Second transition</b>	
From	To
Shot no. 4	Shot no. 5
Rickshaw	Shibuya
Paradigm TRADITION	Paradigm MODERNITY
<b>Third transition</b>	
From	To
Shot no. 7	Shot no. 8

Red Pumpkin	Kabuki
Paradigm MODERNITY	Paradigm TRADITION
<b>Fourth transition</b>	
From	To
Shot no. 12	Shot no. 13
Kawaii Monster Café Harajuku	Maiko
Paradigm MODERNITY	Paradigm TRADITION

Table 3

Transitions from the two paradigms tradition and modernity seen from perspective of the movie shots.

The first to notice is, perhaps, that three of the four transitions do not follow the “normal flux of time”; hence, the first, third, and fourth transition goes from modernity to tradition. Only, the second transition goes from tradition to modernity. What should we make of this? Perhaps, it is “just” a way of pointing toward the past, and to tell that modernity (the present), indeed, stands in a continuous contact with the past, and, thereby, tradition? Let us here remember that Peirce understood time as a continuum and it is inspiring to know, hence we believe that he is correct, when he said: “...the present is half past and half to come.” (CP 6.126). Let us try to look at the four transitions between the two paradigms one by one, arguing for contact between the paradigms concerning each transition. Our argument will rest on Peirce’s, most fundamental and important, typology of signs – icon, index, and symbol. With Peirce, the iconic sign represents its object qua a quality it has sui generis; the icon, then, possesses this quality independently of the object; the quality, makes possible a representation of similarity (cf. CP 2.304; EP I: 226); the index, represents its object in time and space; the index is effected by its object, and the index, therefore, stands in a real relation to its object (cf. CP 2.305; EP 2: 291). Finally, the symbol represents its object via habits and conventions; the symbol, therefore, represents its object to conform to a general rule (CP 2.307). Seen from the perspective of the three Peircean sign types, we understand the transitions from paradigm to paradigm and the possible contact between movie shots as follows:

#### First transition

From MODERNITY to TRADITION; from Tokyo Tower to Fushimi Inari Taisha

The transition from the Tokyo Tower to Fushimi Inari Taisha is uninterrupted. The time sequence elapses without any jerks; the contact between modernity and tradition is, therefore, simply, continuous. Involved are certain qualities making possible relations of similarity, or iconicity, namely, firstly, a similarity, beginning with the zoom, in pace – one could have expected, perhaps, that the pace would have been slowed down “going from modernity and back to tradition”, that is not the case however; secondly, a similarity concerning colors; the red and orange of the metal construction of the Tokyo Tower and the wooden pillars of the Fushimi Inari Taisha, respectively. Furthermore, both the Tokyo Tower and the Fushimi Inari Taisha are symbols concerning the dream of ascent – from two perspectives, of course, communication and religion. The continuous contact between modernity and tradition, then, is accentuated in the “flux of time itself” (even though we are moving from modernity to tradition), but, also, pointed towards, symbolically, with the reference to different “dreams of ascent”.

#### Second transition

From TRADITION to MODERNITY; from Rickshaw to Shibuya

In shot no. 4 a man is pulling a rickshaw in Kyoto and in shot no. 5 people are walking in a zebra crossing in Shibuya; a contiguous, or indexical, contact is established via the bodily movements – involved in walking; furthermore, again as in the first transition, a relation of similarity, iconicity, can be observed, concerning pace – the majority of the people walking in the zebra crossing are not moving faster than the man pulling the rickshaw. Even though, then, the pace in modern Japan is high, it is not so high that there will be no references to tradition; also, concerning, for example, the transition from feudal Japan, represented by the rickshaw, to Japan as a modern economic power with busy night activities as found in Shibuya.

### Third transition

From MODERNITY to TRADITION; from the Red Pumpkin to Kabuki

The viewer (first person view) moves through the hole inside the Red Pumpkin and finds him/herself on or in front of a Kabuki scene. The movement is uninterrupted; again, then, we have an example of continuous contact between modernity and tradition; furthermore, is the quality of darkness involved, which makes possible the relation of similarity, iconicity, between the interior of the Red Pumpkin and the Kabuki scene. Finally, shot no. 7 and shot no. 8, also, stand in a symbolic contact concerning the expression and/or application of imaginative/creative skills or the conventions, rules, and habits which make up arts. Hence, the co-existence of modern and traditional expressions of different artforms is here, we believe, accentuated.

### Fourth transition

From MODERNITY to TRADITION; from Kawaii Monster Café Harajuku to Maiko

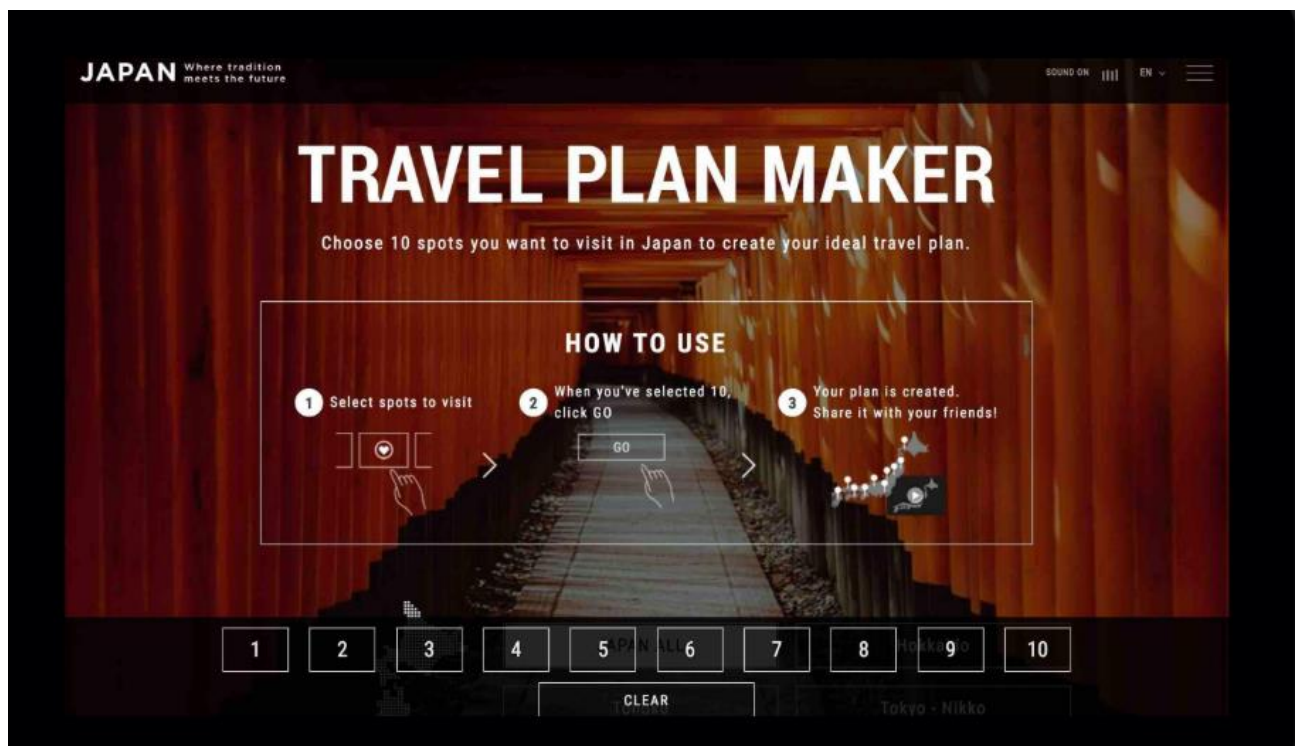
A contiguous, or indexical, contact is established between shot no. 13 and shot no. 14, when the waitress in the Kawaii Monster Café Harajuku, after having placed a tray on the table, waves at the group in the booth, and the Maiko, thereafter, waves her fans from left to right in front of the viewer. Furthermore, both relations of similarity, iconicity, and conventions, rules, and habits, symbolicity, are involved in the transition from shot no. 13 to shot no. 14. Hence, firstly, the appearance of the waitresses in Kawaii Monster Café Harajuku and the Maiko concerns the same qualities of “heavy” make-up and “artful, decorative” hair styles as well as “eye catching” costumes. Secondly, the function of the waitresses in the Kawaii Monster Café Harajuku and the Maiko is also important. Hence, the waitresses of the Kawaii Monster Café Harajuku become a part of a longer/larger tradition, focusing on, for example, conventions and habits concerning women occupied in tea houses, attending guests, and entertaining.

The mediation between Japanese tradition and Japanese modernity (future) is, indeed, we believe, effectively, underpinned, by the very way in which the 360-degree VR movie is edited and its time sequences are shown; hence, the transition from paradigm to paradigm, from tradition to modernity and from modernity to tradition is continuous or contiguous, and, therefore, always, coherent – making use of the different sign types or combinations thereof, which we know from Peirce, icon, index, and symbol. Yet, adding to the possibility of representing Japan as mediating (creating continuity or contiguity) between tradition and modernity (the future) is also the positive valorization, and, thereby, connotations, of technology via the immersive effect of 360-degree VR movie. Movie shot no. 10, for example, shows Pepper; Pepper is a personal robot, described as having “human-like emotions”. A certain kind of immersion is created when Pepper acknowledges the viewer; Pepper looks directly at the viewer, it waves its arms, and it speaks to the viewer, thereby, enhancing the feeling of contact

between the viewer and Pepper. Or, with Jakobson's phatic function of communication, Pepper tries to establish a relation to the viewer, to attract the attention of the viewer, and, then, to continue it (see Jakobson 1960: 355). Hence, Pepper, and with him modernity, reaches out for the viewer, and points toward, perhaps, new cultural contents to come, which Japan, as a nation, also has to integrate in relation to tradition. It is time now, however, to turn our attention to the "travel plan maker".

### **The travel plan maker – let the cultural content “come alive”**

After having felt the immersion of the 360-degree VR movie, the viewer can come one step closer to experiencing the cultural content firsthand by using the travel plan maker of the VJEW. Via the travel plan maker (henceforth the TPM) the viewer is promised the possibility of planning “the ideal trip in Japan”; hence, the TPM can become part of, not only the viewer's planning, but also, his/her decision to, actually, travel to Japan. In the following, we will try to explain the viewer's use of the TPM from the perspective of certain semiotic operations involved in the process of meaning creation; furthermore, we will understand the actual travel plan created by the viewer as representing a (possible) path within the encyclopedia of cultural content. We will not see the TPM in relation to a part of the 4.0 industry concerning planning and decision making until the next subsection.



Picture 5  
The travel plan maker

In order to use the TPM, the viewer must follow two basic steps: 1) Select 10 travel destinations (out of 122 possible destinations), and 2) Click “Go”; thereafter the TPM will, automatically, generate the optimal travel plan. As a further option the viewer can, 3) chose to share the generated travel plan on Facebook and/or Twitter. Finally, 4)

the viewer, also, has the possibility of reading travel notes made by European tourists which have been to one or more of the destinations found in the viewer's travel plan.



Picture 6  
How to use the travel plan maker

Let us, first, notice that the travel destinations from which the viewer can chose, are, not surprisingly, organized into three categories, namely, tradition, modern, and nature. Furthermore, the travel destinations are located within the following seven cities/areas: Hokkaido, Tohoku, Tokyo – Nikko, Chubu, Kyoto – Kansai, Chugoku – Shikoku, and Kyushu – Okinawa. After the travel plan has been generated, the viewer will get a two-fold overview:

- The travel plan is represented in a map; each destination is marked on the map by a colored “flag”, which also has a number – from no. 1 to no. 10; thereby, the viewer can “go from flag to flag” and see the route. Furthermore, each flag is either red, blue, or green; the colors represent tradition, modern, and nature, respectively.
- The travel plan is represented on a list; the list shows the destinations in a sequence in relation to the distance between the destinations and the traveling time by train and/or air.



Picture 7  
The map representing the travel plan

And the semiotics in “all this” some might ask? Well, when the viewer follows step 1) and step 2), as described before, we can understand this as a process of meaning creation. Hence, the viewer will make a selection concerning cultural content, from three paradigms – tradition, modern, and nature. Each paradigm consists of the cultural content, or alternatives, from which the viewer can make selections; the paradigm is in absentia, and its elements, the cultural content, are related through a code, the encyclopedia, which refers to, for example, tradition or modern. However, the selection, made by the viewer, must be followed by a combination of the selected cultural content, or a sequence of cultural content in presentia. Jakobson, inspired by de Saussure, described selection and combination, and their relation, in the following way:\*\*\*

Any...sign involves two modes of arrangement. 1) Combination. Any sign is made up of constituent signs and/or occurs only in combinations with other signs...Hence any actual grouping of...units binds them into a superior unit...2) Selection. A selection between alternatives implies the possibility of substituting the one for the other, equivalent to the former in one respect and different from it in another. (Jakobson 1971: 243)

By these two, fundamental, (mental) semiotic operations, selection and combination, we can understand, then, the way in which the travel plan comes into being. Furthermore, following this logic, we can also understand the travel plan of the viewer as a message. The message is the map and the list. It is important to remember, however, that it is the algorithm of the TPM, which completes the combination of the

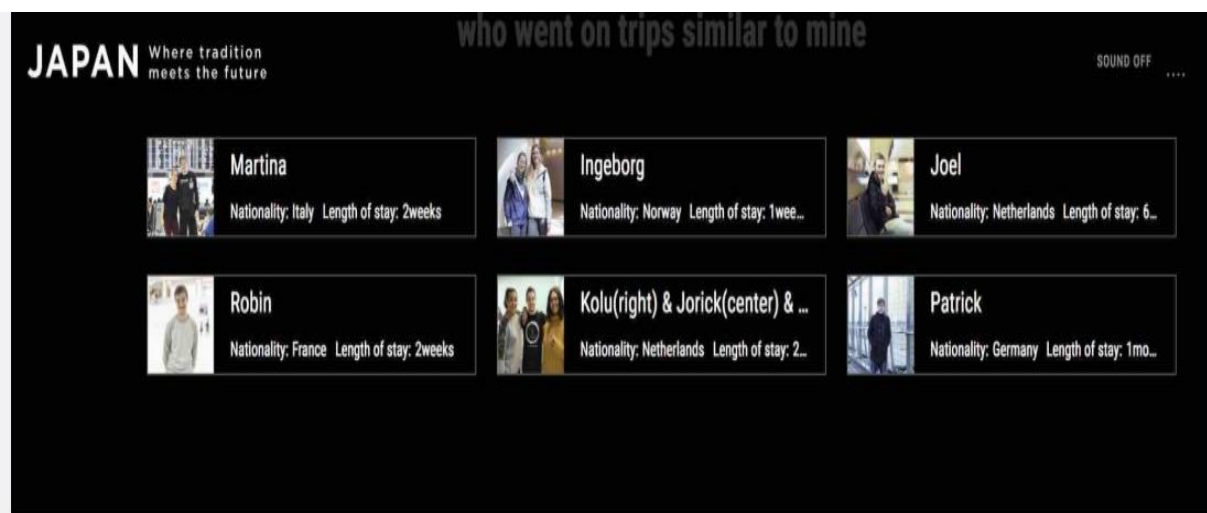
\*\*\* We must mention that Jakobson here is speaking of the linguistic sign; yet, we believe, that it is admissible to understand the operations of selection and combination as general semiotic mechanisms located in relation to every system of signs.

viewer into syntagms, the map and the list – we will return to the algorithm of TPM later. Let us, first, look at the map, which has, we believe, more semiotic functions. The map represents something existing, the locations, but also, something intended to exist, the plan. Hence, with Peirce, we can understand the map as a sign belonging to the class of icons, namely, the diagram. Peirce wrote about the diagram as follows:

The Diagram represents a definite Form of Relation. This Relation is usually one which actually exists, as in a map, or is intended to exist, as in a Plan... The pure Diagram is designed to represent and to render intelligible, the Form of Relation merely. (NEM 4: 316, note 1<sup>†††</sup>)

Hence the map, as a diagram, makes relations intelligible; it makes intelligible the relations between locations. However, the map does not, “simply”, represent the different locations – between which calculations can be made concerning distance and time. Rather, the map, furthermore, represents cultural content, and, thereby, we can understand the map as showing the viewer a (possible) path within that part of the “Japanese encyclopedia”, which concerns tradition, modernity, and nature (if the viewer did, in fact, select content from each paradigm). Furthermore, the map also points toward the relation of viewer to the cultural content; hence, the map is a (potential) sign of the interests, preferences, taste, and knowledge, and so on, of the viewer. Or, maybe we can say that the map, also, represents (a part of) the “individual” encyclopedia of the viewer, because as Eco accentuates: “it is clearly necessary to presuppose and infer the format of the individual encyclopedia of the persons speaking to use, otherwise we would attribute to them intentions (and knowledge) which they do not have.” (Eco 2014: 72-73).

Finally, after having had the travel plan generated, the viewer can choose to read the travel notes written by European tourists which have visited the same destinations as those figuring in the travel plan of the viewer. The tourists writing the travel notes are, of course, interpreters of the travel destinations and their related cultural content as well as having the function of addressers.



Picture 8  
The travel notes of European tourists

<sup>†††</sup> We refer to *The New Elements of Mathematics* by Charles S. Peirce in the standard way: Volume number followed by page number.

The travel notes, however, we can understand, with Peirce, as the interpretants of the cultural content; according to Peirce the interpretant is: “a mediation...because it fulfils the office of an interpreter, who says that a foreigner says the same thing which he himself say.” (W 2: 54). Hence, the travel notes can mediate between the viewer and the cultural content; they can make the cultural content accessible to the viewer by, for example, explaining, circumscribing, or developing (by inspiring the viewer) the cultural content. When we look more closely at the specific travel notes of the European tourists, returning again to Jakobson’s functions of communication, we can say that the majority of the notes are either emotive or referential or combinations thereof. Hence, the travel notes communicate, on one side, for example, the emotions, attitudes, and evaluations of the European tourists concerning the cultural content, and/or they refer to objective, factual circumstances. These obvious or, almost, common sense functions of the travel notes of the European tourists, nevertheless, supplement the meaning of the 360-degree VR movie and its representations of the Japanese tradition, modernity, and nature. However, the important point is that the travel notes do this from a different perspective than the movie; the travel notes are user generated, they serve as (potential) testimonials in relation to the cultural content.

### **The 360-degree VR movie, the travel plan maker, and the 4.0 industrial era**

Simulation is an important building block within the 4.0 industrial era. Via simulations, in plant operations for example, real-time data will be used and the physical world represented mirror-like in virtual models, where production units, such as machines and humans, can be involved. In the development of what we can call “Tourism 4.0”, remembering the earlier reference, simulation will, most probably, be used more (and more) extensively. The 360-degree VR movie is an example of using simulation in nation branding to promote travel destinations in Japan. The movie concerns the creation of a photorealistic (virtual) environment; and the effect is immersive; the movie evokes a sense of “presence” or “being there”, and the viewer experiences certain cultural content – Japanese tradition, modernity, and nature – travelling certain paths of the encyclopedia. In relation to the 4.0 industry, production simulation technologies allow designing, modeling, and testing (smart) products before any physical changeover. In comparison, the 360-degree VR movie also lets a viewer test an environment of cultural content, for example, by moving his/her head taking different camera angles (see also Conroy 2017) – from front, left, back, right, bottom, and top; this process of exploring the environment can be understood as an immersive way of previewing the travel destinations or sampling a part of the cultural content. It is, indeed, interesting to notice that a survey made by Tourism Australia and Goggle’s Think Board has showed that:

- 19 percent of US, 14 percent of UK, and 19 percent of AUS domestic market have used VR to help them in selecting a travel destination
- 22 percent of US, 25 percent of UK, and 30 percent of AUS domestic market were considering to use VR when planning a holiday (tourism.australia.com; contrived on 09.08.19)

With affinity, it seems reasonable, then, that the TPM is placed on the VJEW together with the 360-degree VR movie. Within 4.0 industry, integrated and optimized (real-time) planning and decision making, concerning supply chains, is made possible by the sophisticated combination of automation, exchange of data, and the use of technologies such as cyber-physical systems, Internet of Things, cloud computing, robotics, Artificial Intelligence, and Big Data and analytics. The TPM is, of course, not

comparable with such highly complex 4.0 industry systems with their, for example, real-time scheduling and rescheduling. However, it is still possible, we believe, to argue for, that the TPM, at least, gives us a taste of the *Zeitgeist* of the 4.0 industrial era, when it represents sequences of cultural content in relation to location and time. Or, the TPM is (in a weak sense) a reasoning machine, which can help the viewer plan and underlie his/her travel decisions. Of course, the TPM operates within a “closed system”; hence, all the possible selections, by the viewer, of the cultural content, and thereby, the destinations, are already foreseen by the TPM as well as the following combinations. Yet, with Peirce, we believe, we can nevertheless say that the TPM performs a weak form of reasoning. Peirce wrote about reasoning machines as follows:

The secret of all reasoning machines is after all very simple. It is that whatever relation among the objects reasoned about is destined to be the hinge of a ratiocination, that same general relation must be capable of being introduced between certain parts of the machine. (W 6: 69)

In relation to the TPM the objects reasoned about are, of course, the 122 destinations, including the distance and travel time between them; furthermore, the TPM shall be capable of making the optimal route going from destination to destination.

*If* a viewer makes the following selections of ten travel destinations (cultural content from the three paradigms):

- 1, Shuri Castle
- 2, Nachi Falls
- 3, Shinsekai
- 4, Ryusendo
- 5, Sumo
- 6, Shukubo
- 7, Koyasan
- 8, Rickshaw
- 9, Zazen
- 10, Maiko

*Then* this actual travel plan, covering eight days, will, automatically, be generated:

- DAY 1, Sumo
- DAY 2, Ryusendo
- DAY 3, Shukubo
- DAY 4, Zazen
- DAY 4, Maiko
- DAY 5, Rickshaw
- DAY 5, Shinsekai
- DAY 6, Nachi Falls
- DAY 7, Koyasan
- DAY, Shuri Castle

Hence, the TPM shall be capable of automatically “introducing a general relation between certain parts” echoing Peirce; we will not try to go into which logical strings possibly lay behind each concrete travel plan; here it suffices, we believe, to point towards, that the TPM, indeed, is a “reasoning machine”, which can be a part of a

viewer's decision to travel to Japan. To a certain degree, then, however small some might say, both the 360-degree VR movie and the TPM make cultural content available to the viewer both by "immersive story telling" and "smart digital planning"; thereby, we believe, the VJEW shows signs of the *Zeitgeist* of the 4.0 industrial era.

## CONCLUSION

We stand at the brink of the 4.0 industrial era. More and more companies combine cyber-physical systems, the Internet of Things, and the Internet of Systems to make smart manufacturing possible. However, the fourth industrial era involves more than "mere" digitalization of manufacturing. Or, rather, its *Zeitgeist* seems to influence, also, parts of the creative industries, for example, when nations are being branded, in order to attract tourists. In the branding campaign of the Japan National Tourism Organization, we believe to observe a concrete example of this influence. Hence, when the Japan National Tourism Organization, in 2016, launched its "visitjapan-europe.jnto.go.jp website" (VJEW), this website also included a 360-degree VR movie and a travel plan maker and, thereby, we can say, "immersive story telling" and "smart digital planning". Simulation is an important building block within the 4.0 industrial era; in plant operations, for example, real-time data will be used and the real world represented, in virtual models, where production units and products are simulated. In comparison, via the 360-degree VR movie, the viewer can explore, preview, or sample parts of Japanese travel destinations. In short, the movie is an immersive simulation of certain cultural content as can be discovered within a (local) part of a Japanese encyclopedia, which exists prior to the branding process and the paths of semiosis, which this process tries to "institute". Furthermore, looking at the travel plan maker (TPM) it cannot, of course, be compared "directly" to the highly complex and sophisticated processes of planning and decision making within 4.0 industry, where combinations of automation, exchange of data, and the use of technologies optimize, for example, supply chains. Nevertheless, from a more abstract point of view, the TPM still "taps into", we believe, the *Zeitgeist* of the 4.0 industry, when it, automatically, represents relations of sequences of cultural content concerning location and time. Or, the TPM is (in a weak sense) a "reasoning machine", which can assist the viewer with "smart" planning and underlie his/her travel decision, by generating the optimal route going from destination to destination. We understand the 360-degree VR movie and the TPM as semiotic systems, and, therefore, of course, open to semiotic analysis. Hence, the 360-degree VR movie and the TPM make possible processes of signification and communication, where certain cultural, denotative and connotative, content is promoted to attract tourists. More precisely, the VJEW brings together cultural content stemming from three different paradigms, tradition, modernity, and nature. This process involves a mediation between tradition and modernity, which is the primary meaning of the VJEW – already accentuated, of course, via the slogan "Japan – Where tradition meets the future". However, the mediation can be found, we believe, in the way in which the 360-degree VR movie is edited and its time sequences are shown; hence, the transition from paradigm to paradigm, from tradition to modernity, and from modernity to tradition, is continuous or contiguous, and, therefore, always, coherent – connecting, via iconic, indexical, and/or symbolic relations, different cultural content, for example, going from "a man pulling a rickshaw in Kyoto to people walking in a busy zebra crossing in Shibuya" or from the "Tokyo Tower to Fushimi Inari Taisha". Using the TPM is a process of meaning creation; the viewer will select cultural content from (one of the) three paradigms, tradition, modernity, and nature, and, thereafter, combine the selected

cultural content into a sequence. Via the selections and combinations of the viewer (completed by the algorithm of the TPM) a message comes into being; the message is the map and the list. The map is an iconic sign, a diagram, with more semiotic functions; hence, the map not only represents different locations – rather, the map, furthermore, represents cultural content, and, thereby, we can understand the map as showing the viewer a (possible) path within that part of the “Japanese encyclopedia”, which concerns tradition, modernity, and nature. The TPM, furthermore, potentially, relates to the travel notes made by the European tourists which have been to Japan; hence, the travel notes have the status of (potential) interpretants mediating between the viewer and the cultural content by communicating, emotively and referentially, for example, the emotions, attitudes, and evaluations of the European tourists concerning the cultural content as well as referring to objective, factual circumstances. The travel notes, therefore, become a supplement to the meaning of the 360-degree VR movie and TPM. In the above we have, more than once, mentioned the *Zeitgeist* of the 4.0 industrial era; and the VJEW seems to be “something appropriate to the spirits of time” involving simulation and “smart digital planning” in order to convey cultural content and to brand a nation; perhaps, thereby, also, making that nation stronger.

## REFERENCES

- \_\_\_\_\_. (1976) *The New Elements of Mathematics*, 4 volumes, Eisele, C. (Ed.), The Hague: Mouton Publishers.
- \_\_\_\_\_. (1982-). *Writings of Charles S. Peirce. A Chronological Edition*. Fisch, M. H. (et.al) (Eds.). Bloomington: Indiana University Press.
- \_\_\_\_\_. (1992, 1998). *The Essential Peirce. Selected Philosophical Writings*, 2 volumes, The Peirce Edition Project (Eds.), Bloomington: Indiana University Press.
- Barthes, R. (1977). *Image Music Text*. London: Fontana Press.
- Cheregi, Bianca-Florentina. (2017). “Nation Branding in Romania After 1989: A Cultural Semiotic Perspective”, in: *Romanian Journal of Communication and Public Relations*, volume 19, number 1: 27-49.
- Conroy, A. (2017). The BBC and virtual reality. Retrieved from <http://www.bbc.co.uk/rd/blog/2016-06-the-bbc-and-virtual-reality>.
- Danesi, M. (2018). *Understanding Media Semiotics*. London: Bloomsbury Academic.
- Davidson, H. (2004). “Encyklopædi”, in: *Livstegn*, T. Thellefsen and B. Sørensen (Eds.), Copenhagen: Haase & Søn: 59-61.
- Desogus, P. (2012). “The Encyclopedia in Umberto Eco’s Semiotics”, in: *Semiotica*, volume 192, Issue 1/4: 501-521.
- Eco, U. (1979) *A Theory of Semiotics*. Bloomington: Indiana University Press.
- Eco, U. (1984). *Semiotics and the Philosophy of Language*. Bloomington: Indiana University Press.
- Eco, U. (2014). *From the Tree to the Labyrinth*. Cambridge Mass.: Harvard University Press.
- Elmezeny, A, et.al. (2018). “Immersive Storytelling in 360-Degree Videos: An Analysis of Interplay Between Narrative and Technical Immersion”, in: *Journal of Virtual Worlds Research*, volume 11, Number 1: 1-13.
- Jakobson, R. (1960). “Linguistics and Poetics”, in: *Style in Language*, T. A. Sebeok (Ed.), Cambridge Mass.: MIT Press.
- Jensen, J F. (1994). *Teknologi-semiotik. To essays om teknologi, tegn og betydning*. Aalborg: Nordisk Sommeruniversitet.

- Larsen, H H. and Alsted, C. (1991). "Toward a Semiotic Typology of Advertising Forms", in: *Marketing and Semiotics*, Larsen, H.H. et. al. (Eds.), Copenhagen: Handelshøjskolens Forlag, 75-104.
- Lévi-strauss, Claude (1969). *The Raw and the Cooked*. London: Cape.
- Monaco, J. (1981). *How to read a film*. Oxford: Oxford University Press.
- Morris, C S. (1938). *Foundations of the Theory of Signs*. Chicago: Chicago University Press.
- Moth, M and Sørensen, B. (2004): "Film", in: *Livstegn*, T. Thellefsen and B. Sørensen (Eds.), Copenhagen: Haase & Søn: 74-79.
- Nöth, W. (1995). *Handbook of Semiotics*. Bloomington: Indiana University Press.
- Peirce, C.S. (1931-1958). *The Collected Papers of Charles S. Peirce*, 8 volumes, C. Hartshorne, P. Weiss, and P. Burks (Eds.), Cambridge, MA: Harvard University Press.
- Saussure de, F. (1995). *Course in General Linguistics*. London: Duckworth.
- Schwab, K. (2016). *The Fourth Industrial Revolution*. London: Penguin Random House.
- Sheikh, A. (et.al) (2016). "Directing attention in 360-degree video". Paper presented at IBC 2016 Conference, Amsterdam. doi: 10.1049/ibc.2016.0029