

F. Sudweeks, H. Hrachovec and C. Ess (eds). *Proceedings Cultural Attitudes Towards Communication and Technology 2010*, Murdoch University, Australia, 300-314.

DIFFERENT DISCUSSIONS ON ROBOETHICS AND INFORMATION ETHICS BASED ON DIFFERENT CULTURAL CONTEXTS (BA)

Discussions on robots, informatics and life in the information era in Japanese bulletin board forums and mass media

MAKOTO NAKADA
University of Tsukuba
Tennoudai1-1-1, Tsukuba-shi
Ibaraki, 305-8571 Japan

Abstract. In this paper, I will analyze „what sort of invisible reasons lie behind differences of discussions on roboethics and IE (Information Ethics) in Japan and “Western” cultures’, focusing on (1) the recent trends of researches in roboethics in „Western’ cultures, (2) the tendencies of portrayal of robots, ICTs, Informatics, life in the information era reflected in news papers reports and talks on BBSs in Japan. As we will see in this paper, Japanese people have difficulty in understanding some of the key concepts used in the fields of roboethics and IE (Information Ethics) such as „autonomy’ or „responsibility (of robots)’ etc. This difficulty appears to derive from different types of discussions based on of different cultural contexts (*Ba*) in which the majority of people in each culture are provided with a certain sort of shared/ normalized frames of narratives. In my view and according to some Japanese critics or authors, senses of ‚reality’ of Japanese people are strongly related with ‚emotional sensitivity to things/persons/events in life’ or ‚direct-<non>mediated-intuitive awareness/knowing’ (Izutsu, 2001). These tendencies in Japanese minds seem to influence their limited interest in the ‚abstract’ discussions as well as in straightforward emotional expressions with regard to robots and ICTs.

1. Introduction

I want to start discussions in this paper with my personal experiences in my university class during which I dealt with one of Yasujiro Ozu’s well known films, *„Tokyo Monogatari* (Tokyo Story).’ A lot of ‚foreign’ graduate students were in my class, from Ukraine, China, Korea, Indonesia and they talked about their impressions on this film and how to ‚analyze’ this film as a work symbolizing Japanese culture. The remark of one of the students from Ukraine was very interesting. He said that in order to

understand this film we have to avoid critical eyes tied with critical minds, abstract concepts, dogmatic views like the eyes they (people in the former Soviet Union) used to have. And he added, „This film has a topic of changing family relations after the world war but Ozu’s intention is not directed to critical portrayal of this phenomenon, he seems to show us the importance of aesthetic acceptance of sensitivity to this matter in life.’ (I added some supplements to his words.) And some Chinese students said that they were surprised to find out restraint of direct emotional expressions among family members in this film because there is no remoteness or indirectness of human relations among Chinese family members.

In my view, these remarks show some of the fundamental traits of Japanese culture and ways of Japanese narratives used in this modern era as well as in the previous eras: (1) tendency to avoid abstract concepts in various aspects of life; (2) tendency to avoid straightforward emotional expressions; (3) as a result, almost everything, subjects of ethical discussions, human relations, evaluation of things, incidents in war time, lies in the cultural contexts based on „orientations to “direct bonds among persons-things (*Mono*), inner minds (*Kokoro*)-outer events (*Koto*), persons-persons, things (*Mono*) and events (*Koto*)” through “mediated –indirect ways of expression of common/shared senses or emotions”” (with regard to *Koto*, *Mono*, see Bin Kimura, 1994).

Take for instance the following poem (*Haiku*) by Matsuo Basho (1644-1694).

Furu ike ya / kawazu tobikomu / mizu no oto
(an ancient pond / a frog jumps in / the splash of water)

In my own interpretation, within this poem, through this poetic expression, we experience some sort of oneness (*Ichinyo*) of the poet, frog, old pond, sound of jumping frog, Basho’ ears, our own ears, i.e. direct connection(s) among facts/expressions, *Mono*/ words, persons/ objects. It seems that we have difficulty in explaining this sense of oneness by logical sentences using abstract concepts. „Oneness’ is an abstract concept on the one hand but in the case of Basho’s *Haiku*, „oneness’ has no meaning without „emotional sensitiveness to’ these connections. In addition, senses or emotions found in this poem, or in this „oneness’, can’t emerge without indirect-mediated ways of expression. In this sense, this direct connection of *Mono*, *Koto* is based on indirect expressions.

One of the scenes in the film produced during the world war shows direct bonds (connections) among persons (soldiers) and persons (soldiers), things (*Mono*) and events (*Koto*) through a sort of „emotional senses to body’ as something similar to „schème corporel (body schema) (Merleau-Ponty, 1945).’ The following shows the talks of soldiers in the front line to whom some good cigarettes and cigarettes of medium quality are rationed. The soldiers’ emotional sensitivity to life or their destiny emerges through restrained-indirect referring to their mortal bodies, or through calm talks at this special moment between death and life.

Soldier A: Let’s try these medium ones. Good cigarettes should be reserved for better occasions.

Soldier B: Nonsense! We might lose our life at the next moment. If we might miss good ones, we would regret not having tried these good ones forever.

Soldier A, other soldiers: (Silent)

Soldier A: I see. Let's try these good ones.

(*Goninn no sekkouhei* =5 scouting soldiers) (1938, directed by Tomotaka Tasaka)

In my view, in the previous eras and also even in the modern era, some Japanese scholars or authors, who are sensitive to this kind of phenomena or experiences associated with 'intersubjective sensitivity' or 'common-shared forms of narratives' (based on emotional sensitivity to the beings in this world), have tried to put these intuitively/ metaphorically expressed phenomena or experiences into more clear terms.

For instance, according to Toshihiko Izutsu, Dougen, a famous Zen Buddhist priest (1200-1253) in Kamakura era of Japan, tried to bring Being, which is dried up by process of articulation of beings or by grasp of essence based on the process of articulation of beings, into the state of 'articulation of beings without grasping of essence' and he (Dougen) also tried to bring Being into its original fluency (Izutsu, 1991). And in this sense, in the case of Basho's *Haiku* too, things, persons, events lie in the situation of fluid or active process of interchange of articulation and inarticulation: oneness.

Yujiro Nakamura suggests us that Kitaro Nishida tried to regain meanings of beings based on *Mu* (nothingness) or 'predicative substrata (substratum)' which is in contrast with subjective substrata. In this sense, *Mu* is not understood as mere emptiness but as a source of beings (*Yu*) on which articulations of beings is founded. According to Nakamura, oneness of *Mu* and *Yu*, or oneness of subjects and objects, oneness of events (*Koto*) and words (*Koto=Gen*) needs *Ba* (or *Bamen*) (Place, Feld) where 'coming together' of subjects and objects, events (*Koto*) and words (*Koto=Gen*) is possible. This *Ba* or *Bamen* includes, Nakamura insists (while citing the works of Motoki Tokieda, a Japanese linguist (Tokieda, 2008)), things, scenes, subject's (someone's) attitudes, subject's feelings, subject's emotions (Nakamura, 2001).

In the case of Basho's *Haiku* and also in the case of *Goninn no sekkouhei*, it seems that events, flog pond, sound, silence, soldiers' minds, cigarettes are located upon (or within) the *Ba* or *Bamen*. I agree with Nakamura in this sense.

Bin Kimura, a Japanese psychiatrist who is influenced by Kitaro Nishida, Zen-Buddhism and Heidegger, says that in every case of our perception, we feel, if we carefully see what happens, that the objects of our perception have some kind of active selfness, i.e. the objects as reflection of our own self-experiences (Kimura, 1975, p.6).

In my view, these remarks shown here including my own ones can provide people, who are unaware of these presuppositions in Japanese culture, with starting points on which they can see where the main problems dealt with in this paper lie: robots and high-tech products in different cultural contexts or *Ba* (Place).

I think that at least those who know about some of the typical robots in Japan (Aibo, Asimo, Paro, Wakamaru) can now easily imagine what 'Ba (Place)' or 'emotional sensitivity to things' means with regard to Japanese robots: Japanese robots seem to emerge with some sort of images such as 'Iyashi (healing, peace of mind, calmness)', 'Kawaii (cute)', 'Itukushimu (loving)', 'Nagoyaka (harmonious, gentle)', 'Kizutuku-kokoro (sensitive inner minds)' which can't be separated from Japanese 'intersubjective sensitivity' or 'emotional Ba (Place).'

To put this another way, Japanese robots are (seem to be) interacting with people in the cultural contexts (*Ba*) where abstract concepts and talks based on abstract/logical concepts are far less important than communication based on indirect-mediated emotions and feelings.

2. Robots and roboethics in Japanese cultural contexts and ‘Western’ culture(s)

2.1. ROBOTS IN JAPANESE CULTURE

As I said somewhere else (Author, 2009), in my view, Japanese people including myself have difficulty in understanding „why some of the main topics, i.e. „autonomy’, „responsibility (of robot, or of artificial agent)’ (and the topic „robot and ethics’ itself) in robotics and roboethics in “Western” culture(s) are so eagerly discussed by scholars and authors in „Western’ culture(s).’

According to Veruggio and Operto (Veruggio and Operto, 2006), “the name Roboethics was officially proposed during the First International Symposium of Roboethics (Sanremo, 2004), and rapidly showed its potential.” In fact, so far as I took a look at the related papers or journals, I have to agree with Veruggio and Operto when they point out in such way: Robotics (and perhaps roboethics) is a new science still in the defining stage and needs a bottom-up Interdisciplinary discourse (...). (Veruggio and Operto, 2006).

But whenever I asked the graduate and undergraduate students in my classes (dealing with the information society and particularly with values and ethics in information society) about the importance of this new field of studies and also the importance of discussions in this field, most of them answered, „no.’ And it seems that these negative and passive attitudes towards roboethics are not confined to my students. In fact, some Japanese scholars have similar opinions in this regard. For example, Naho Kitano says that Japanese scholars in robotics have been showing very limited interests in ethical discussions with regard to usage of robots, while they have been focusing on enhancing the mechanical functionality of robots and that in this sense their attitudes and interests are different from those of scholars in the West(..). (Kitano, 2006).

But the important fact we should take into consideration is that these negative and passive attitudes don’t necessarily mean Japanese negative attitudes towards robots and robotics themselves. Quite the contrary, as we know, Japanese have strong interests in robots and interactions with robots, Tamagochi, cartoon-like robots, robot images in Manga (comics), pet robots. In fact, according to the report of Japan Robot Association, Japan is No. 1 in the world with regard to use of robots (<http://www/jara.jp/other/dl/>).

In this sense, as I said before somewhere else (Nakada, 2009), this unawareness of the importance of roboethics itself might be considered to be a subject for ethical discussions for Japanese people themselves. Because just as I suggested before in this paper, if this unawareness is due to the differences in the cultural contexts (*Ba*) where robots in different cultures find their own cultural/spiritual/practical meanings, Japanese people might be under unexpected influence by both robots from „foreign’ cultural

contexts (*Ba*) or their own cultural contexts (*Ba*), because people might not be able to see these cultural contexts (*Ba*) clearly, even if they live in these cultural contexts (*Ba*).

The case of the research by AIST (the National Institute of Advanced Industrial Science and Technology) using Paro as Japanese pet robot shows us that the true sources from which the ‚healing‘ (*Iyashi*) effects of Paro come might remain invisible, because the scientific and objective data reported in these researches can't give us any concrete information on which aspect(s) of the ‚therapeutic‘ interaction with Paro has (have) real effects.

The following is part of PR about the ‚therapeutic‘ results of the research by AIST. According to this report, this research done in 2003 and 2004 in Japan was fantastic in that aged people's minds and health improved better after communication with Paro.

In this way, the contact with PARO proved to be therapeutically effective: psychologically, cheering up (Fig. 3), exhilarating, and improving the depression (Fig. 4); physiologically, remitting stress (Fig. 5); and socially, augmenting interaction among the aged and with nursing personnel and bringing bright atmosphere. The normally tight-lipped elderly become smiley and willing to talk about pet animal he/she had kept before.

(AIST press released on September 17, 2004 (http://www.aist.go.jp/index_en.html))

The problem of this research is that the ‚true‘ causes of the effects remain unclear. These effects might be due to the synergistic influence by communication with AIST research members or with the other subjects as well as to invisible cultural contexts (*Ba*).

2.2. AUTONOMY AND RESPONSIBILITY OF ROBOTS IN ‚WESTERN‘ CULTURE(S)

As I said before, I think that Japanese people including myself have difficulty in understanding the importance of some of the ethical topics of robots/roboethics. Especially, in the case of ethical discussions on ‚autonomy‘, the distance between ‚East‘ and ‚West‘ seems to be far greater than we might expect. I understand that this topic, ‚autonomy‘ and the related topics such as ‚responsibility‘ are considered to be among the main and the most important topics in the fields of roboethics or HRI (human-robot interaction) in Europe and the USA.

And as we will see later in this section, not in a few cases, discussions on ‚autonomy of robots‘ in the fields of robotics and roboethics in Europe and the USA are closely related with discussions on ‚responsibility of robot.‘ In this respect, the ethical distance between ‚East‘ and ‚West‘ is growing.

It seems to be possible for Japanese to understand the discussions on ‚morality‘ or ‚responsibility‘ of users, designers or manufactures of robots. But ‚morality of robots‘, ‚responsibility of robots‘ or ‚autonomy of robots‘ (the meanings of ‚autonomy‘ which can't be reduced to ‚automatic functions of robots‘) are beyond their (our) understanding or even imagination.

The following can be regarded as typical cases of discussions on these topics in ‚Western‘ culture(s).

John Sullins' discussions on ‚autonomy‘ or ‚morality‘ of robots are among the typical ones which appear to be ‚strange‘ for people with ‚Eastern‘ eyes. Sullins writes: „In certain circumstances robots can be seen as real moral agents. A distinction is made

between persons and moral agents such that, it is not necessary for a robot to have personhood in order to be a moral agent (Sullins, 2007).” According to Sullins’ views, we can see a robot as a moral agent, on condition that the three requirements are fulfilled, i.e. ‘autonomy’, ‘intention’, and ‘responsibility.’ The requirement of ‘autonomy’ as a moral agent will be achieved when “the robot is significantly autonomous from any programmers or operators of the machine.” And ‘intention’ can be achieved when “one can analyze or explain the robot’s behavior only by ascribing it to (its) some predisposition or (its) ‘intention’ to do good or harm.” And ‘responsibility’ means, in this case, that “robot moral agency requires the robot to behave in a way that shows and understanding of responsibility to some other moral agent.”

In my view, and perhaps in the views of authors in the tradition of Hermeneutics (Heidegger, 1953, Gadamer, 1960), in any case, we can’t be perfectly free from some theoretical or cultural presuppositions. I think that in the cases of those discussions of ‘Western’ scholars and authors, we can see some invisible/hidden presuppositions, for example, ‘standing points of scholars and authors.’ When we take into consideration the main purpose of this paper, we can’t get into inner structures of ‘Western’ minds and cultural contexts, but it might not be so difficult to see that in the discussions on robots in ‘Western’ *Ba* (Place), ‘abstract’ concepts are important, while, on the other hand, the standing points of ‘real’ humans using these ‘abstract’ concepts are sometimes/often invisible. And this means that, in the case of Sullins’ discussions, the necessity for such discussions remains invisible or hidden. It is clear that robots are not merely abstract and logical beings but they are beings in our common world where people are motivated by a variety of concrete necessities.

And when we notice that these hidden/deleted necessities are associated with the use or selection of abstract concepts/terms, the deletion or erase of the standing points might bring about unexpected influences on the ‘logical/ scientific’ discussions themselves.

The following is citation or summarization of Floridi’s views on ‘mind-less morality’ by Sullins. In my view, we have to pay careful attention to the deleted necessities and the deleted or hidden term ‘ascription’ as well as to ‘analysis (by human beings)’ and ‘explaining (by human beings)’ in this citation. Otherwise, we might not be able to see the important fact: The ‘autonomy’ and ‘morality’ of robots can’t be divided from ‘ascription’ or ‘interpretation’ by human beings. Sullins seems to sometimes forget to use the term ‘ascription (by human beings)’ in a clear way. And this lack of the term ‘ascription’ itself might bring about unexpected/invisible confusions or misunderstandings in regard to ‘the meanings of autonomy, responsibility of robots’ just as in the case of discussions on ‘mind-less morality.’

If an agent’s actions are interactive and adaptive with their surroundings through state changes or programming that is still somewhat independent from the environment the agent finds itself in, then that is sufficient for the entity to have its own agency (Floridi and Sanders, 2004).

It is clear that we can (or should) add the deleted terms or descriptions, ‘to ascribe’, or ‘can be seen by us or someone (for example, the authors themselves)’ to this sentence.

In this sense, Rafael Capurro is completely right when he says: ‘It is, following the Kantian argument, impossible to create an artificial living or non-living moral being

because freedom and autonomy are not a quality of sensory natural and/or artificial beings (Capurro, in print). I agree with Capurro in that ‚autonomy’ and ‚responsibility’ of robots can be embodied into robots by ‚ascription’ of human beings.

The following is part of Brian R. Duffy’s discussions on the morality of robots (Duffy, 2006).

The issue of moral rights and duties arises from two perspectives. The first is whether a machine should be programmed to be morally capable of assessing its actions within the context of its interaction with people (this includes the evolution of behavioural mechanisms and associated moral “values”).

The second perspective is whether it is necessary to have human capabilities in order to be able to assess morality.

Although these discussions sound interesting and objective at first glance, but just as in the case of Sullins’s paper, the starting points of discussions, the necessities of paying attention on these topics, ‚morality’ and ‚autonomy’, are invisible.

In the case of Veruggio’s paper too, the necessities of starting discussions on the morality of robots are not clear (Veruggio and Operto, 2006). In his paper on ‚Roboethics Roadmap’ he (they) starts (start) his (their) discussions on roboethics with the simple question: “Could a robot do ‚good’ and ‚evil?’”; “Could robots be dangerous for humankind?” These are very simple questions, but we can’t find any particular reasons why he (we) has (have) to start from this point.

Veruggio cites Galvan’s remarks on the relations between technology and human beings in order to show the validity of his views on robots, i.e. ‚Robots have ethical dimensions’, or ‚An ethical dimension is intrinsic within robots.’

In this view, an ethical dimension is intrinsic within robots. This derives from a conception according to which technology is not an addition to man but is, in fact, one of the ways in which mankind distinguishes itself from animals (Galvan, 2003).

It is true that ‚technology is not an addition to man but is, in fact, one of the ways in which mankind distinguishes itself from animals’, but this doesn’t lead automatically to the different conclusion: ‚Robots have ethical dimensions.’

In Peter Asaro’s paper, he tries to combine the concepts, ‚autonomy (of robots)’ and ‚morality (of robots)’ with the other concept, ‚rights (of robots)’, asking “how legal theory, or jurisprudence, might be applied to robots?”

In order to avoid the impression, ‚robots’ rights’ are completely absurd and ridiculous’, he tries to show the validity of his discussions, while insisting as follows (Asaro, 2007).

Most notably, the case of unborn human fetuses, and the case of severely brain damaged and comatose individuals have led to much debate in the United States over their appropriate legal status and rights.

But again in these discussions, the presuppositions and the necessities of discussions on morality, autonomy, legal rights of robots are still invisible.

3. Robots, ICTs, Informatics, Life in the information era in Japanese culture with emotional sensitivity and with limited abstract concepts

3.1. ANALYSIS ON PORTRAYAL OF ROBOTS, ICTS, INFORMATICS, LIFE IN THE INFORMATION ERA IN JAPANESE MASS MEDIA AND WEBSITES

As I said before in this paper, in my view, we can't be completely free from any theoretical or cultural presuppositions, especially when we want to talk about the meanings of technologies, science in our everyday life, because technologies and science of today are part of our life which is based on our necessities, desires, beliefs, human relations. In the case of the ongoing discussions on ethical aspects of robots and information technologies, as we have seen, the implicitly or explicitly chosen starting points as presuppositions seem to exert influence on the directions of discussions.

In my view, it seems that Japanese robots are (seem to be) interacting with people in the cultural contexts (*Ba*) as in the case of Paro. And it seems that these cultural contexts (*Ba*) influence upon the contents and tendencies of discussions in a such a way: People prefer „discussions based on “intersubjective sensitivity”” to discussions based on abstract and logical concepts.

In order to confirm the validity of this hypothesis (at least partly), I have attempted to analyze the contents of discussions, news reports, talks in Japanese mass media and in Japanese web bulletin boards, focusing on the terms used in these discussions, news reports and talks.

The reason for adopting this type of analysis, i.e. focusing on the terms used in mass media and websites is due to my interests and the present situations regarding ethical studies on robots as well ICTs in Japan: (1) The efforts of presenting the overviews of the discussions on robots and information technologies in Japan have not been done yet; (2) At this first stage of studies or of presenting an overview, it might be a better choice to focus on the terms which can be analyzed (counted) objectively; (3) By combining the objective methodologies of analysis with qualitative analysis, we might be able to find out some invisible traits of Japanese cultural contexts (*Ba*).

3.2. METHODS AND FINDINGS OF CONTENT ANALYSIS

The following shows the methods used in this content analysis and the subjects of analysis.

Methods: quantitative content analysis using KH-Coder and ChaSen. KH-coder is free software for text mining developed by Kouichi Higuchi (University of Osaka). ChaSen is a tool for morphological analysis of natural language (Japanese) developed by NAIST (Nara Institute of Science and Technology). Language structures of Japanese as a natural language consist of a sequence of letters and characters in the following way: Kinouwatashihakarenitokyodeatta. By using ChaSen, we can change this sequence into groups of letters and characters (i.e. morphemes) in this way: „Kinou watashi ha kare ni tokyo de atta.’ By combining KH-coder and Chasen, we can get a list of terms (morphemes) used in a certain set of texts, i.e. a list of frequencies of the terms which

provides us with hints about the tendencies and the directions of discussions and discourses in the set of texts.

The subjects of analysis: (1) News reports of Asahi Shimbun (Asahi Newspaper) (one of the major newspapers in Japan with readers over 800 million). By using database of Asahi Shimbun, the news reports on (a) ‚robots‘ (from 2007-2009), (b) ‚robots and ethics‘ (from 2000-2009), (c) ‚robots and responsibility‘ (from 2000-2009), (d) ‚information society and mind‘ (from 2007-2009) were chosen for content analysis. In the cases of (a), all of the articles including the chosen term, i.e. ‚robot‘, were selected. In the cases of (b), (c), all of the articles including the chosen term(s), i.e. ‚robot‘, ‚robots and ethics‘, ‚robots and responsibility‘ and ‚information society and mind‘ were selected at the first stage, and at the second stage only the articles including the contents of ‚robots and ethics‘ and so on exceeding 82 letters and characters were chosen (so that we can omit inadequate articles including the term ‚robot‘ but not dealing with ‚robot‘ as main topics).

(2) Threads of Internet bulletin forum called ‚Channel 2‘ (*Ni-channeru*) as one of the most widely known free access bulletin board forum on the Internet in Japan. The threads of subjects are those whose main topics of discussions/talks, (a) ‚robotics‘, (b) ‚information studies‘, (c) ‚privacy‘, (d) ‚Akihabara homicide.‘ The threads of subjects were chosen from a list of related threads randomly on January 6, 2010 (a, b, d) or January 11, 2010 (c).

(3) Threads of 4 Internet bulletin board forums whose topics are ‚suicide.‘ These threads were chosen through search engine (Yahoo Japan) randomly on Mai 27, 2008.

The following tables show the results of the content analysis on these subjects (texts) of analysis. The figures of each table show the frequencies of major terms appearing in the texts. ‚Major‘ terms in these tables were chosen so that (1) we can know the tendency of usage of those important concepts/terms referred to in the previous passages in this paper (autonomy, responsibility and so on); (2) we can know the tendency of usage of some of the important concepts/terms appearing in various texts relative to robotics, information studies, phenomena in the information era (digital divide, surveillance, privacy and so on); (3) we can know the tendency of usage of important morphemes such as nouns, adjectives and so on which seem to suggest us about the traits of Japanese cultural contexts (*Ba*) in the information era (Place for staying, Life, anxious, safe etc).

Table 3.1 Frequencies of terms appearing in Asahi Shimbun

	2007 <i>Robot</i>	2008 <i>Robot</i>	2009 <i>Robot</i>	2000- 2009 <i>Robot & Ethics</i>	2000-2009 <i>Robot & Responsibility</i>	2007-2009 <i>Information Society & Mind(Kokoro)</i>
Robot	569	462	517	145	288	5
Computer	40	31	24	28	29	17
Autonomy	4	0	0	0	6	1
Automatic	0	0	15	0	4	10
Intelligence	0	7	0	0	15	5
Brain	1	1	2	0	0	7
Body	5	6	1	0	5	0
Responsibility	1	0	0	0	36	0
Ethics	13	5	5	30	12	17
Military	0	0	4	0	8	5
Soldiers	0	0	4	0	0	18
Necessary (<i>na- adjective</i>)	66	55	74	23	23	322
Possible (<i>na-adjective</i>)	53	36	56	22	18	193
Safe (<i>na-adjective</i>)	29	23	55	5	2	0
Danger (<i>na-adjective</i>)	0	0	13	15	14	0
Anxious (<i>na-adjective</i>)	0	0	11	15	14	0
Destiny	4	4	3	0	1	6
Sincerity	0	0	0	0	0	0
Total number of articles including the term, 'robot'	212	214	214	19	25	221

Table 3.2. Frequencies of terms appearing in Channel 2and bulletin boards for suicide

	2008- 2010 <i>Robo- tics</i>	2008- 2010 <i>Informatics (Informa- tion Studies)</i>	2009- 2010 <i>Privacy</i>	2008- 2010 <i>Akihabar a Homicide</i>	2008 <i>Websites For Suicide</i>
Robot	427	6	2	7	0
Computer	14	144	12	9	0
Autonomy	7	0	2	8	8
Automatic	9	2	4	5	0
Intelligence	25	54	0	3	0
Brain	4	0	0	5	1
Body	3	13	12	8	3

Responsibility	1	18	36	77	7
Ethics	3	0	3	4	0
Military	2	49	0	4	0
Soldiers	0	1	3	0	0
Necessary (<i>na- adjective</i>)	52	81	78	147	19
Possible (<i>na- adjective</i>)	39	45	66	89	10
Safe (<i>na-adjective</i>)	4	2	37	9	0
Danger(<i>na-adjective</i>)	2	5	14	22	1
Anxious (<i>na- adjective</i>)	1	8	20	26	27
Destiny	0	0	1	10	8
Sincerity	0	0	2	4	2
Total number of threads	20	20	18	20	4

Table 3.3 Frequencies of terms appearing in Asahi Shimbun

	2007 <i>Robot</i>	2008 <i>Robot</i>	2009 <i>Robot</i>	2000- 2009 <i>Robot & Ethics</i>	2000-2009 <i>Robot & Responsibility</i>	2007-2009 <i>Information Society & Mind(Kokoro)</i>
Reason	3	1	0	0	0	3
Postmodern	0	0	0	0	0	0
Capitalism	0	0	0	0	0	0
Public	5	4	1	0	0	40
Human right	1	0	3	2	0	19
Humanism	0	0	1	0	0	1
Welfare	4	13	13	2	0	237
Individualism	0	0	0	0	0	0
Surveillance	0	0	0	0	0	0
Privacy	5	1	2	2	2	39
Place for staying (<i>Ibasho</i>)	0	0	2	0	0	3
Life (<i>Jinsei</i>)	19	14	11	2	2	31
World (<i>Sekai</i>)	176	145	118	31	27	529
Total number of articles	212	214	214	19	25	221

Table 3.4. Frequencies of terms appearing in Channel 2 and bulletin boards for suicide

	2008- 2010 <i>Robo- tics</i>	2008- 2010 <i>Informatics (Informa- tion Studies)</i>	2009- 2010 <i>Privacy</i>	2008- 2010 <i>Akihabara Homicide</i>	2008 <i>Websites For Suicide</i>
Reason	0	2	0	5	0
Postmodern	0	0	0	0	0
Capitalism	0	0	0	0	0
Public	0	4	4	4	0
Human right	0	25	22	61	0
Humanism	0	0	0	0	0
Welfare	0	3	2	8	0
Individualism	0	0	0	0	0
Surveillance	0	0	0	0	0
Privacy	0	0	242	2	1
Place for staying (<i>Ibasho</i>)	0	0	1	37	11
Life (<i>Jinsei</i>)	4	8	6	229	41
World (<i>Sekai</i>)	50	37	33	117	7
Total number of threads	20	20	18	20	4

One of the most important things that we can understand (when we see the figures of these tables) seems to be the fact that frequencies of some of the important concepts such as 'autonomy', 'public', 'reason', 'humanism', 'capitalism', etc. are very limited both in Asahi Shimbun and Channel 2 (and in websites for suicide too). In my view, this fact means that newspaper reports and talks/discussions in bulletin board forum(s) with regard to 'roboethics', 'robotics', 'information ethics', 'informatics' and '(aspects of) life (in the information era)' fundamentally are not based on logical concepts or reasonably/logically constructed discourses.

As I suggested before in this paper, Japanese minds, human relations, communication, views of nature, meanings of life, interpretation of social events seem to be based on 'emotional sensitivity to life, time, nature and so on', 'common, shared forms of emotional expression', 'narrative forms for expressing/sharing indirect emotions', etc. which are likely to make up some sort of broader/inclusive cultural contexts (*Ba*). It seems that the newspaper reports and talks/discussions in the websites we tried to analyze are based on these cultural contexts (*Ba*) which sometimes form more concrete *Ba* such as *Ba* associated with images of information technology, *Ba* with sensitivity to sensitive communication on the Internet, *Ba* for Otaku (freak) of robots, *Ba* for people to abuse (applause in some cases) on crime culprits, even *Ba* for suicide.

If we combine these findings with the figures of Table 3.5 which shows 'terms used with high frequency in Asahi Shimbun, Channel 2 and websites', we can understand the

characteristics of these cultural contexts (*Ba*) more deeply. As we can see very easily, in the case of newspaper reports and also in the case of talks/discussions in the websites, a set (or several sets) of standardized/stereotyped terms are used frequently: ‚technology’, ‚science’, ‚information’, ‚world (*Sekai*)’, ‚machine’, ‚emotion’, ‚mind’, ‚myself (*Jibun*)’ (*Jibun* can be used as the subject and also as a predicate), ‚life (*Jinsei*)’, ‚society (*Shakai*).’ In my view, these terms make up several groups, a group of terms with neutral meanings (‚technology’, ‚science’, ‚information’, ‚machine’), a group of terms enabling people to be aware of the cultural contexts (*Ba*) (‚emotion’, ‚mind’, ‚myself (*Jibun*), ‚life (*Jinsei*)’, ‚death’, ‚humans’ (*Ningen*)). At first glance, these terms (nouns) appear to be abstract/logical concepts, but in my view, these terms are nothing more than obscure/indiscriminate/ vague/dim terms. They are not abstract concepts, but rather something like metaphors. If we refer to life (*Jinsei*), we can imagine some sort of *Ba*, but we can’t know how to change life, how to solve problems in *Jinsei*. We can only say, ‚C’est la vie.= *sonna monodayo Jinsei ha.*’ In the case of websites for suicide too, the term ‚death’ seems to be a metaphor rather than a concept. And this metaphor seems not to be associated with more concrete images/meanings of death such as ‚dead body’, ‚funeral.’ I think that people have difficulty in solving problems of life or death associated with the obscure and metaphoric term, ‚death.’ I think that *Jinsei* (life), *Sakai* (society) in Japan in the information era are full of these sorts of obscure/metaphoric terms, images, meanings.

Table 3.5 Terms (nouns) used with high frequency in Asahi Shimbun, Channel 2 and websites for suicide

Topics	Terms (nouns) used with high frequency
2000-2009 Robot & Responsibility (Asahi)	robot 288 technology 102 humans 117 science 61 responsibility 36 team 33 information 29 computer 29 world 27 movement (<i>Ugoki</i>) 25 Astro-boy 24 child 20 machine 19 artificial 18 disaster 17 project 17 myself (<i>Jibun</i>) 17
2000-2009 Robot & Ethics (Asahi)	robot 145 technology 130 science 90 nano 47 information 35 humans 32 world 30 computer 27
2009-2010 Privacy (Channel 2)	information 702 individual 348 company 245 privacy 242 defense 241 enterprise 204 myself 156 child 92 picture 88 security 85 name 84 kid 82 pornography 81 English 79 Japan 76 high school 75 trader 73 humans 72 group (<i>Dantai</i>) 70 employee 68
2008-2010 Informatics (Channel 2)	information 451 nation 313 trial 278 institution (<i>Seido</i>) 247 constitution 179 computer 133 mathematics 126 politics 116 form 103 science 98 engineering 88 total 86 myself 84 humans 84 society 78 constitutional 76

3.3. SEKEN AND JAPANESE CULTURAL CONTEXTS (*BA*)

As I said many times somewhere else (Nakada, 2004, 2005), Japanese people of today still live in an indigenous and traditional aspect of life-world called ‚*Seken*.’ In my view, *Seken* is based on Buddhism, Shintoism, Confucianism, Japanese traditional culture,

memories of history (wars, disasters, political upheavals like Meiji Restoration) or common/shared ways of understanding the meanings of life. In this sense, we can imagine that *Seiken* is strongly related with the cultural contexts (*Ba*). But in the cases of the content analysis shown above, some of the important terms related with *Seiken*, i.e. ‚destiny‘, ‚sincerity‘ are found out to emerge with very limited frequencies. On the other hand, our research done in 2008(in Japan) suggests that ‚ethical and cultural attitudes of Japanese people towards robots/blogs/privacy in the information era‘ seem to be related with *Seiken*-related meanings (see Nakada, 2009). The examination on these points as well as on comparison of Japanese *Ba*, ‚Western‘ *Ba* and different ethical views on robots, information ethics will be a task at the next stage.

4. Conclusive remarks

I think that what is necessarily to examine at the next stage is the possibility of applying the term, ‚cultural contexts (*Ba*)‘ to different discussions in different cultures, in ‚Western‘ culture(s), in other ‚Eastern‘ cultures. I have the impression that people from other Asian cultures (China, Korea, etc.) live in *Ba* or cultural tradition(s) where far more direct/straightforward emotional expressions are considered to be better, compared to Japanese people who are accustomed to indirect emotional expressions. This difference sometimes causes, I think, a lot of misunderstandings among people in ‚Eastern‘ cultures. If my impression is correct, people from China, Korea (at least the students in my class from China and Korea) tend to have a negative image about Japanese culture or society, because they think Japanese people look gentle but at the same time unfriendly. They feel that there is an invisible barrier between them and Japanese people. In this sense, to think deeply about the inner structures of these (different) ‚cultural contexts (*Ba*)‘ is a very important task in this global age. As I repeatedly said in this paper, it seems that an invisible barrier based on different cultural contexts (*Ba*) or presuppositions seem to exist between Japanese people and ‚Western‘ people at least in the case of discussions on ethical aspects of robotics, information society. Japanese people can understand (I hope so) those concepts, ‚autonomy‘, ‚responsibility‘, ‚ethics‘, ‚individualism‘, but if these concepts are grounded on different ‚cultural contexts (*Ba*)‘, some aspects related with these concepts might remain invisible. And this sort of invisible barriers might exist among ‚Western‘ people. It seems to be very strange that ‚Western‘ scholars can’t understand the fact: their standing points are an essential part of the ethical problems raised with regard to robots, HRI. So to think about the possibility of applying the term, ‚cultural contexts (*Ba*)‘ to different discussions in different cultures will be a very important task for me and hopefully for people in different cultures too.

References

- Asaro, P. M. (2007). Robots and Responsibility from a Legal Perspective, a paper for ICRA'07 (2007 IEEE International Conference on Robotics and Automation).

- Capurro, R. (forthcoming). Towards a Comparative Theory of Agents. In proceedings of the panel on Autonomic Computing, Human Identity and Legal Subjectivity hosted by Mireille Hildebrandt and Antoinette Rouvroy .
- Duffy, B.R. (2006). Fundamental Issues in Social Robotics. *IRIE 2006, vol.6 (Ethics in robotics)*, 31-36.
- Floridi, L. and Sanders, J. W. (2004). On the Morality of Artificial Agents. *Minds and Machines, 14.3*, pp. 349-379.
- Gadamer, H. (1960). *Wahrheit und Methode*. Tuebingen: J.C.B.Mohr (Paul Siebeck).
- Galvan, J.M. (2003). On Technoethics. *IEEE-RAS Magazine, 10 (2003/4)*, 58-63.
- Heidegger, M. (1953). *Einfuehrung in die Metaphysik*. Tuebingen: Max Niemeyer Verlag.
- Izutsu, Toshihiko (2001). *Ishiki to honshitsu*, Tokyo: Iwanami.
- Kimura, Bin (1975). *Bunretsubyou no genshogaku*. Tokyo: Kobundo.
- Kimura, Bin (1994). *Kokoro no byourigaku wo kangaeru*. Tokyo: Iwanami.
- Kitano, Naho. (2006). „Rinri”: An Incitement towards the Existence of Robots in Japanese Society. *IRIE 2006, vol.6 (Ethics in robotics)*, 78 –83.
- Merleau-Ponty, M. (1945). *Phénoménologie de la perception*. Paris: Presses Universitaires de France.
- Nakada, Makoto (2004). The Internet within *Seken* as old and indigenious world of meaning in Japan: The Interrelationship between *Seken*, *Shakai*, and the Internet in Japan. *Paper presented for IV. ICIE-SYMPOSIUM*, pp.1-28.
- Nakada, Makoto (2005). Are the Meanings of Japanese Popular Songs Part of *Seken-Jinseikan* Meanings? *Gendaibunka-Koukyouseisaku-ronnsyu (1)*, 105-130.
- Nakada, Makoto (2009). Ethical and critical views on studies on robots and roboethics. Submitted paper to Joint-workshop on Ethics and Robotics by ReGIS, Cybernics and STI-IE (October 3, 2009, University of Tsukuba.)
- Nakamura, Yujiro. (2001). *Nishida Kitaro I*. Tokyo: Iwanami.
- Sullins, J. P. (2007). When Is a Robot a Moral Agent? ICRA 07 -Workshop on Roboethics (subimitted paper to this workshop).
- Tokieda, Motoki. (2008). *Kokugogaku genron*. Tokyo: Iwanami.
- Veruggio, G. and Operto, F. (2006). Roboethics: a Bottom-up Interdisciplinary Discourse in the Field of Applied Ethics in Robotics. *IRIE 2006, vol.6 (Ethics in robotics)*, 2 -8.