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Abstract

This paper initially examines theories proposed by Feenberg about technical systems and alternative modernity, analyzes his thoughts, and concludes that a framework of values needs to be provided in shaping technical systems. In a society like Iran, where policy makers are looking for the realization of Islamic values, this framework of values is derived from Islam. To explain the relationship between religion and technology, the concept of concretization has been used up, according to which, all aspects of civilization, including technical systems must be concretized based on Islamic values. Virtual space as a part of the technical systems must be concretized with a holistic approach, based on Islamic values, and for this purpose, there is no choice but a collective social life based on religious values. The concluding section of the paper also tries to deal with another significant issue which predicts the future of concretization at the level of civilizations which will be offered using the metaphor of the 'sand desert'.

Keywords: alternative thinking; value framework; concretization; virtual space; sand desert metaphor

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Possibility of Alternative Thinking from Feenberg's Outlook

Given the unprecedented pace in developments of modern technologies and the increasing tendency on the part of human societies to make use of them as well as their inevitable impacts upon human life, they cannot simply be ignored in sociological and philosophical analysis. Modern societies are now facing huge challenges as the global environmental crisis, nihilism, consumerism, the decline of family values, etc. One key factor for the crises are man-made technological systems. In fact, the current model pursued for technological developments seems to be the only unrivaled model available, proposing a certain lifestyle for individuals and social life for the contemporary man. Some scholars, however, contend that development can take place in various forms and that there is no 'sole determined path' in this regard. Andrew Feenberg is one of the philosophers of technology who has been offering theories in defense of this notion. Feenberg introduced his 'Critical Theory of Technology' in a book under the same title in 1991. The theory seeks to fix the shortcomings and gaps already existing in major principles of the philosophy of technology, concepts such as instrumentalism and substantivism. Unlike instrumentalists, Feenberg insists that technology is not a value-free phenomenon and cannot be dealt with separately from the goals for which it has been developed for. He is also critical of the deterministic approach promoted by substantivists for technology and its developments. As a result, it is to say that Feenberg considers technology as a phenomenon with cultural specifications and values and, at the same time, he does not believe a deterministic path for it, arguing that development is made possible through various ways and is dependent upon policymaking (Feenberg, 2002, p. 5-8). In his stance, in addition to technical aspects, there are social dimensions and different groups' participation, which are of crucial roles in the development of technical systems. According to Feenberg, the possibility of changing the path for the development of technology, the creation of an alternative technological system and an alternative modernity is a feasible one.

In Feenberg's mind, the modern technical structure has been shaped by capitalistic values. There are a selected few who decide on and financially benefit from it (Feenberg, 2010, p. 79).

However, he defends as inalienable, the right for people to have a role and impact the technological system which affects them (Feenberg, 1999, p. 216-218). Feenberg forms the project in the shape of a democratic rationalization of technology (Feenberg, 2010), making use of his instrumentalist theory to connect the technical and social dimensions of technology. He proposes public participation and intervention should be defined and carried out in the decision-making process for technological systems.

A Critique on Feenberg's Theories

Having reviewed Feenberg's theories, one comes to learn that by offering his new concepts, Feenberg was generally trying to replace the existing capitalistic values in technology with democratic ones. He believes that the ordinary public has a role in deciding on technology developments. Nevertheless, to put that into action, one may face questions and challenges, which are a result of the fact that in his theory the concept of democratic values has been abandoned, ambiguous and vague. The concept can appear in different forms which are alluded to in the following.

At first, we assume that by democratic values, Feenberg means a specified set of values. The question the arises whether these values encompass the plurality of cultures, interests, tastes, religions, races, traditions and would still remain universal. Are all ethnic and domestic values included and respected in that defined and determined set? It seems that a positive answer to these questions is too idealistic and the realization of such a goal is practically impossible.

At the second instance, we assume that Feenberg is not seeking a set of specified values and considers the majority's demand as the determining factor. In that case, on the one hand, the question would be what is there to support a positive ideal about the majority's demand? Is it true to say that the outcomes of humanity's trials and errors necessarily lead to emancipation? Is it possible to revoke any harmful consequence of concretization[1] based on a set of values? On the other hand, in case such a process leads to polarization, that is half of people supporting one set of values and the other half standing against it, how can one judge between them and what would be the criteria to put

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[1] The concept of 'concretization' will be discussed in the next sections.

one group over the other? Is it possible to adapt and materialize the technological system to both of the frameworks? In fact, concretization causes such dramatic social and technological changes that make it a difficult task to revoke technologies to their original status and what they used to be before adapting them to a set of values. This can lead to significant changes in man's lifestyle and his interactions with the outside world and cause a kind of subjugation. In other words, with the realization of values, the material and social structures relevant to them go through alterations in a way that they reflect the values and cultures, reproducing and institutionalizing them. As a result, it is not possible for people to choose whatever arbitrary lifestyle they wish and use tools the way they want, rather it is the limitations associated with the technological systems and its resulting culture which determine and restrict the way we interact with the outside world. A question is that what will happen if two conflicting sets of values are put together in a social and technological structure? As an example, let us take the case of a group of followers of a particular ideology who turn radical and decide to seek their goals through terrorist activities. There is no doubt that values propagated by such a group, which could be large in terms of numbers, are in clear contrast with those of other societies who are openly and strictly against terrorism as a means to pursue political objectives. A choice between these two is indeed, a choice between life and death. As a matter of fact, if the values set by the terrorist group become the base for concretization, such a decision will bring about consequences and damages which cannot be easily fixed if not irreparable. The example just mentioned proves that in the practical arena, where humans have to choose one set of values over another, they must consider the consequences, thus, the contradiction between values turns into a serious matter. As a result, to simply think that two conflicting sets of values can have a peaceful coexistence and easily adapt to each other when materialized in social forms, would be simplistic and naïve.

Another example of contradicting values can be about the issue of freedom in sharing posts in online social media. 'Second Life', the video game which was released in 2003 for the purpose of recreation, is an example in which the user can set up a different

virtual identity or avatar with such optional specifications as gender and interact with others in the new world, where they get married, spend leisure time, have children and choose and manage a specific lifestyle of their own. In such a world, the avatars' behavior and way of life face no limitations. That means the users can experience all sorts of risky, inappropriate and violent behaviors. Research has shown that the self-image that one has in mind, unconsciously, shapes the performance and behavior of individuals in the real world. This image can be affected by the avatar that one builds for him/herself in the game. So it may cause some changes in one's personality. Among the worse consequences of experiencing such a game could be ignoring real life, family relationships and emotions, a sense of worthlessness and suicide (Dell, 2008; TFP student action, 2015). There are also options in the game which are in open breach of Islamic rules, values and culture, including homosexual behavior and mockery of religious concepts such as the soul, angels, death, etc. In a society where such values rule and the upbringing of children are based on religious principles, then an unlimited access to websites, movies and video games can turn into a matter of concern. In an environment with such free access, children can access obscene and adult content while they are still immature without parents' knowledge and permission. As minor users are unaware of the impacts of such websites and their content, access to them can harm families significantly, raising a generation of people who show little regard for religious values.

Therefore, the technologies which are developed and make up a specific system are rooted in a set of values that are inserted in them in the design stage whether intentionally or unintentionally.[1] Once finding their way into the society and getting accepted by its members, these technologies then introduce a new set of values and spread their specific culture, making it a necessity to beware and remain vigilant of the hidden or reproduced values. In fact, as mentioned earlier, the values associated with the new technological systems practically impose limitations and

[1] The authors are aware that there is a difference between the two types of culture and values; the values and culture that produce technology, and the values and culture that technology produces. However, we expect that the culture and values born by technology, be influenced by the values and culture that create technology, but it should be noted that the values and culture born by technology, are subject to our interaction with technology.

restrictions on human life. As a result, to curb such threats and to divert the path of technologies, one cannot simply resort to direct interference rather there must be alternative values and frameworks. One has to initially specify their stance regarding the values set by different systems and choose a specified and 'efficient' set of values or try to draw up a framework to determine the path of technological developments and concretize the technological systems to a finalized set of values at different levels.

Now, in the context of the Iranian society, if people have a tendency to set Islam as their value and seek to materialize it in all forms of civil life, that means they have specified their stance regarding values. As a complete religion inspiring eternal happiness and human salvation, Islam promises blessedness both in the world and the afterworld. Based on such conviction, policymakers can make the best use of religious teachings in applying, concretizing and practicing them for the sake of modern-day demands. Hereafter we use the concept of concretization for elucidating the relationship between religious values and technological systems and here in particular the virtual space technology.

Concretization
As earlier mentioned philosophers like Feenberg contend that the path of technology is not pre-determined and has the potential to change and be influenced. What he suggests for such alterations is providing the grounds for public participation during the process in which technology is designed and developed. But to do so, one needs to clarify the position with regards to values based on which judgment and choices are made. There is a necessity to rely on a particular set of values. In such process that is interfering in the development and policy as well as decision-making regarding technology, concretization has to be made based on that specified set of values. To discuss this, one has to offer a clear definition of the concept of concretization, for which we have to find who initially introduced the concept and where it was applied. French philosopher, Gilbert Simondon, who has theorized the philosophy of technology, is the scholar who first developed the concept of concretization while dealing with the issue of technological progress. He believes that concretization takes

place when the synergy of technology and environment take place and the need arises for creating change in this regard so that technologies are more applicable and best exploited by human beings. In such process, some technologies are introduced which have multidimensional functions. That means two different structures with differing functions can fit into one new unified structure with two usages, thus making a more adaptable technology, which conforms more to the natural and contextual limitations and is therefore more elegant (Simondon, 1958).

Simondon limits the concepts of concretization to the elegance and better functioning and seeks innovations which are more neutral policy wise. However, influenced by structuralists who demonstrate that technology is not separable from society and is affected by social feedback and reactions (Bijker et al., 2012, p. 21-45), Feenberg tries to establish a balance and make the concept more moderate. He argues that concretization is not limited only to improving the function of technology, rather one can devise sophisticated mechanisms in which different social needs are addressed within a multi-functional framework. Therefore, he concludes, there is the potential to include the demands and values of different social groups without sacrificing functionality (Feenberg, 2010, p. 20, 78; Feenberg, 1995, p. 232).

For instance, in Feenberg's opinion the internet as the most fundamental infrastructure of cyberspace is still in a transitional stage for the development in which various alternative paths can be introduced. Feenberg proposes three models or paths for the development of the internet, each one of which may come forth and be preferred over the others in the future: information model, consumption model and community model. In the information model, the internet is used as a technology to improve the distribution of information. In the modern world, where information has replaced industry in the drive for power and wealth, the internet can serve as an appropriate tool for the distribution of information. Nevertheless, it has become clear that many users resort to the internet not as a source of information but rather as a tool for personal and social communications. Therefore, there is little chance such a model could surpass the other two.

The second model is one of consumption, where a variety of trades and businesses are conducted on the net and people make

use of the internet to introduce their products. It is a spot where new markets, people and commodities are connected together. Although emailing still enjoys the top rate by users, online business is closely following and enjoys huge capacities which have not yet been fully exploited. Still, the problem is that in such a case, the internet will no longer remain neutral. In fact, business corporations will monopolize the broadband technology and this could lead to tremendous changes, one of which is a dramatic reduction in the communicational and public use of the internet.

The most common use of the internet nowadays is within the community model, in which the main function is offering services to users for free communications with others in the virtual space. In such a context, users employ the internet in the form of either personal emails or memberships in online groups, social networking groups and associations. Feenberg views the society as an arena where human beings interact and find a space to share their judgments about the outside world. Now, any technology that provides and enjoys such capacity is of a democratic importance. The question faced by such interpretation of the internet is whether users in modern-day societies can genuinely interact in such a space. The normal answer from users and the result from the bulk of research on the matter is simply the fact that the internet is a realm for social interaction, having similarities with face-to-face communication. In addition to the latest developments in high-quality visual and sound communication, a Japan-based research has demonstrated that the users' character and pre-determined personality features on the net are in line with their routine daily-life qualities. Therefore, one could note that what determines the behavior of the user on the internet is not technology, rather their personality and that is what is needed in real-life social sphere. Meanwhile, in internet communications, a user is the reader and viewer of information while he is at the same time, a sender and producer.[1] Feenberg insists that the community model has the capability to maintain the other two functions that is the business interaction as well as recreation and information distribution. However, it is the social function which sets the technical development path of the internet. Nowadays, online trade has adapted itself to the

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[1] For more information on online community, see (Feenberg & Bakardjieva, 2004).

necessities of the social model. One example is using part of the space in social networking sites for advertisement, without interfering with their original content (Feenberg & Friesen, 2012, p. 13). As a result, it seems feasible to develop and concretize different technologies such as the internet in a way that it is still able to fulfill different demands and hold various technical and social functions, without disturbing or limiting their basic roles.

Therefore, the values which Simondon had in mind are limited to homogenizing the technical functions. But as Feenberg suggests, this outlook could be broadened so that it can cover a multitude of demands under concretization and that technology can be devised in a way that it can promote other values along with technical ones thus fulfilling social demands and creating an 'elegant technology' in accordance with these values. However, as pointed out earlier, Feenberg fails to tackle the vagueness of values in his discussion. Now, a critique of Feenberg must lead us toward drawing up a set of functioning specified values to determine the path of technology. Therefore, for the Iranian society to extract values from religious sources, it has to concretize its technological system based on religious convictions.

Alternative Thinking in Virtual Space

According to what has been discussed so far, if a society seeks to formulate its social and technological system and its civilization in general, based on its religious values and teachings, it needs to concretize its technological systems by including religious aspects. But to make fundamental changes in the path of technology and reforming the values bases, one cannot deal with the technological systems separately and independently from the other manifestations of civilization. Indeed, the parameters making up a civilization are intertwined in a complicated manner and are of mutual impacts upon each other. Thus, to make changes in each of them, the basic long-term approach is to consider civilization as a whole and concretize it based on religious values. This means one cannot take an approach in which only specific aspects are taken into account and the others are ignored. For changes in all aspects of civilization and making all dimensions of a society religious, with an overarching approach, it is the members who should think and act religiously and pursue a religious way of life. Indeed,

if human beings go through personal and internal changes and work toward building great civilizations, all aspects of their civil life will improve and experience tremendous improvements.

To elaborate more on the issue, some explanation is needed about the way a civilization is formulated or changed. All civilizations when built must have the following seven parameters: 1- Material structures such as urban planning. 2- Social structures such as government bodies. 3- Theoretical system which is the way different phenomena, such as universal knowledge, are viewed. 4- Practical systems which are a set of methods materializing goals in the educational and technological systems 5- Discourse, like the secular approach. 6- The network of human needs such as the need for information and communications technology. 7- Values and norms.

As a result, to concretize different manifestations of technology, such as the virtual space, the general technological systems have to be concretized. Technology in itself is a manifestation of the practical systems which in turn is part of civilization, as mentioned in the above parameters. In fact, all aspects of civilization must be treated as parts of one unified whole and developed after being adapted to religious values and teachings. To create such a change, the pre-requisite is the change in members who live in a religious society and each play a part in the formulation of different aspects of civilization.

Policymaking is among various factors affecting the creation of a new civilization as a result of changing its aspects. Other elements are determination and consciously preparing the ground. Civilization is a very comprehensive and complicated phenomenon with multiple dimensions and layers. It is indeed formulated by a multitude of forces in different times and places. Thus, it is a tough task to coordinate all those forces in a way that they smoothly facilitate the process of concretization based on a specified framework. However, it is still somehow an achievable goal if social structures are shaped and the culture is prepared based on favorable values. But the degree of the success of such coordination and the result of the activities aimed at creating civilization and how to shape it are issues which will be measured and found only in hindsight.

The following example could help to clarify the debate on the

prediction of results of concretization process and establishing a civilization based on religion. Let us imagine a sand desert with a certain number of hills all having a particular height, size and distance from one another. Now, in case of a storm, the desert will still be standing while the hills no longer hold the same shape and structure, that is, they may each find a new height, size and distance from the others. The same could hold true if we liken civilization to such a desert. The elements are like the hills each with specifications of their own. If changes are introduced, then those elements may experience change just the way the hills did in the desert. The extent of the changes is not predictable. With the new modifications, some concerns and questions in the existing civilization may no longer remain as serious, or may just change or disappear. As mentioned above, the measurement of the change is something that can be done only in hindsight. And the same is therefore whether those changes have been minor or major. It is only after this stage that one could tell if many forces intentionally or unintentionally affected the policymaking or whether unpredicted phenomena impacted the changes in civilization or if those who introduced the changes were fully aware of what they did. Therefore, the analysis after the implementation of those changes can only tell us what those forces have done, using which, one can elucidate step by step on the elements of civilization.

Therefore, concretization of the elements of civilization based on religious values could change the elements themselves. Here the technological systems, as one of the most explicit forms of the new civilization, is not an exception and may alter after changes are introduced into civilization. There is a chance that there might be technologies in the new civilization that run counter to religious values and could impact the individual and social lives of human beings and may carry values and a culture which stand against religion. The level and the extent of such a contrast may not be immediately clear. Depending on that, the level of change in a certain technology and the technological system remains unclear too. For instance, the purpose behind designing a certain product or the way it is socially or technologically represented and introduced may go against religious values.

Let us now review the second option in the discussion

on democratic values. We argued that the juxtaposition of two conflicting sets of value in practice may be too hard if not impossible, because every material or social structure brings about limitations which cannot remain ignored. The same holds true here. There is little chance for a technology which is inherently opposed to religious values to get adapted to those values after partial changes. In fact, the purposes behind developing a technology might be basically and openly in contrast with religious values in which case the values and objectives in it could be criticized and challenged using the religious values and pave the way for their implementation and growth in the hope for mending the shortcomings of that certain technology and doing away with its possible negative cultural ramifications. There is also the possibility that using proper policy making, social structures and cultural changes based on favorable values, one can affect or redirect the path of technology. As a result, the measurement of the amount of change in different technologies is something which can be carried out in hindsight.

As one of the most vital and complicated technologies of the modern world, cyberspace can fit into the same framework explained above. With fast-paced changes during time, the history of virtual technology is a complex one. Besides, it is a technology still in a transitional period, facing a variety of paths ahead of it. Having reviewed the history of the internet as the most important infrastructure of virtual space, one can come to the conclusion that it has been employed for different purposes ranging from education, business, marketing, online trade, entertainment and social communications. The internet's fast spread in human communities has drawn the attention of sociologists and philosophers, who have been offering different arguments for and against it. Some contend that the internet is a threat to democracy. They argue that this is due to the fact that joining social groups is a matter of choice and therefore users are often inclined to groups which maintain their personal beliefs and tastes. This, they say, would stop them from hearing the opposite views and increases prejudice in individuals (Feenberg & Friesen, 2012, p. 4). There are also others who reject the form of human communications in the internet as unsuitable and improper for human societies (Borgmann, 1992, p. 108) and some even believe that the internet can cause self-alienation. However,

scholars like Feenberg reject such a negative and critical stance, insisting that the internet creates the proper space for the growth of democracy, as it is a place where users can openly express their views while exchanging information. They are also free to organize virtual gatherings. Some are also predicting a future where the internet contributes to gender equality and such developments as online elections can blow fresh air into democratic societies (Hiltz &Turoff, 1993).

Therefore, the technological complexities and the widespread use, make it hard to analyze the status of the virtual space. The values and the unique culture which the development of the virtual world has imposed on human societies have dramatically affected the individual and social lives of users. Still, one can challenge it based on religious values by evaluating and analyzing the impacts of the virtual space on human life as well as identifying the values and the new culture it has introduced. Due to the differing levels of conflict of values and culture produced by the virtual space with religious principles, one cannot measure the impacts this new technology can leave upon the civilization built on religious values. In fact, in a society based on religious teachings, a phenomenon like the virtual space may go through major changes or even be replaced with a more astonishing technological development.

The concretization of the technological systems in general and the virtual space in particular, based on religious values could be a very lengthy process. Still, that should not make one remain idle. During the process, one needs to challenge the technology and the technological systems as well as all the parameters of the existing civilization based on religious values and worldview, preparing the ground for the implementation of religious principles. Indeed, as long as there is no urge for change, there would be no motivation to create a new civilization either. Therefore, one can argue that the initial step for the establishment of a new civilization concretized and adapted to religious values is challenging the existing civilization. Criticizing the environment based on religious values is, in fact, the first step towards reviewing and reconsidering new technologies. It must, nevertheless, be noted that for all those changes the pre-requisite, as mentioned earlier, is inner individual improvement which human beings should experience by getting closer to God.

Conclusion

To create changes in the technology of the virtual space and to tackle its shortcomings, one has to initially demonstrate whether such a change happens in the first place. To do so, we tried first to explore such possibility from the viewpoint of Andrew Feenberg, one of the most prominent philosophers of technology promoting alternative thinking. He argues that the vision that the path of technological developments is a deterministic one is flawed, insisting that with greater public participation, such notion would be proven wrong. To demonstrate the idea that the technological system is possible to redirect, he resorts to a variety of historical examples. But Feenberg's flaw lies in his inability to do away with the vagueness of the democratic values he speaks of. Therefore, the present paper suggests that to create changes in the path of technology, one needs to initially determine a framework of values for policy and decision making with regards to the development of technology. In a religious society, such framework can be introduced by religious principles. As a religion guaranteeing human happiness in both the world and the afterworld, Islam has offered a set of values and plans for its followers. Afterwards, for a better illustration and elucidation of the relationship between religion and technological values, the concept of concretization was discussed. Concretization, a notion introduced by Simondon into the philosophy of technology, refers to technology getting adjusted to technical and contextual specifications. The more such conformability, the more functioning will be the new technology. Therefore, the value discussed by Simondon for the concept of concretization is the ability to adjust technology to the environment and redirecting its functions.

What Simondon means by concretization and the way it is employed faces limitations. Still, however, it enjoys the capability to be generalized and widely used. This means it can be hired for listing the way different values interfere with the process of developing technologies. Relying on religious values, one can carry out the concretization process in a way that it can lead to new technologies conforming to religious values. In other words, taking into account their religious and cultural values, one can analyze technologies and redirect them in a way that can lead to further flourishing of religious values and introduce a culture

that conveys those values. It must, however, be noted that the technological systems is just one among many structures which make up a civilization. All civilizations are built upon various parameters such as the practical, theoretical, material and social systems among others. The technological systems falls within the category of the practical one. To concretize such a system, one cannot deal with it independent from other phenomena of civilization. Therefore, an overarching approach is needed to concretize all the parameters of civilization, for which to be realized, human beings need to go through inner spiritual changes and choose the religious lifestyle.

As a result, considering the sand desert metaphor, the parameters of concretization of civilizations can lead to either minor or major changes in the already existing technologies. The extent of the change is something which can be measured only in hindsight. The same rules apply to virtual space as one of modern-day technologies. At the first stage, one needs to challenge and criticize the current parameters of civilization as well as the virtual space and later adapt the technology to religious values. The process could be lengthy in terms of time, after which the virtual space may experience little or fundamental transformations or be replaced by a new phenomenon. A precise identification and measurement of such changes are only possible in hindsight.

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