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The Conceptual Access-Network Thesis: Theorizing the Success of New Internet-Based Products, Services, & Technologies

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Abstract

The Conceptual Access-Network Thesis proposed suggests that the development or success of any new internet-based product, service, or technology will ultimately be contingent upon how well it satisfies the criterion of providing access to or creating a network of potential users, products, and services. The significance of this thesis is that, as a criterion, the principle not only explicates how internet technology evolves but can explain what underlies a range of technologies beyond that of the internet, which include chemical forms such as Insulin and highways that are based on the tenets of access or networks despite the inevitable change over time that technologies will experience. While discussing the role of change as both process and product we consider how the future of internet-based technologies will ultimately result in a distortion of Dr. Stanley Milgram's intimate stranger phenomenon that can be traced back to 1967 before the internet existed, which demonstrates the cyclical nature of the (r)evolution of technology: the future will consist of various manifestations, combinations, or permutations of previously discovered or established concepts. There has never existed an internet-based service, product or technology offered that failed to satisfy the access-network criterion since the inception of what became known as the internet. The implication of this article is that by providing context for understanding the current developmental stage of the internet-based products and technology we are now prepared to more accurately predict what will exist, the necessary ethical considerations, and how we may act to prevent any unwanted outcomes.

Much of the influence that technologies such as television and the internet have had while fulfilling one of their many roles as media may be attributed to the ability to either stimulate or enhance communication. Whether the medium is television used to inform a nation's citizens about candidates during a presidential campaign, or simply searching for your friend's profile on a social media site on the internet, communication as a consequence of technological engagement is undeniable. That notwithstanding, for there to exist communication between people because of what was observed on television, or through the use of the internet, conceptual access, and a network are essential to the successful implementation of these technologies and are that upon which they ultimately rely.

What is the Conceptual Access-Network Thesis?

Despite the confidence that one should have in the continual improvement of the internet-based products and services offered, there is an inability to predict the next phase in the internet's evolution precisely. Nevertheless, even without the precision to make such predictions, I argue that there exist two basic key ideas that are inextricably linked to the original idea of the internet, which account for every single Internet-based product and service that has existed since its inception: access and network. Access is defined as the freedom or ability to

obtain or make use of something ("Access — Definition of Access by MerriamWebster," 2016). The various versions of the word network include the system, connection, and group among the most commonly used in the definition ("Network — Definition of Network by Merriam-Webster," 2016). Both notions of access and network are intertwined with one another such that the establishment of neither one can truly be said to precede the other.

Whether it was originally conceived of with these notions in mind, tying together computers to gain the ability to upload and download data to and from any of the computers does require both access and a network regardless which takes precedence. If one views the internet from this perspective, then there has not been a single internet service, product, or technology that fails to satisfy the requirement of access and network. Based on this finding, the inference that can be made is that access and network will always be central concepts to newly developed Internet-based products and services. To capture the essence of the development of new Internet-based products and services having a foundation embedded in the ideas of access and network, I propose what The Conceptual Access-Network Thesis, which states that the development or success of any new Internet-based product, service, or technology must be contingent upon how well it satisfies the criterion of providing access to or creating a network of, potential users, products, and services.

The Access-Network Mutualistic Symbiosis

The Access-Network thesis is not only applicable to the internet and associated technologies. In fact, I argue that every example of technology that comes to the mind of the reader will undoubtedly reduce to, or involve a Conceptual Access-Network framework. Effects ranging from fundraising to entertainment that television has had on politics and campaigning in general, our choices for television programming, the factors that influence these choices, and even the decision to use alternate media like smartphones are based on both access (to the technologies or people) and a network (of individuals and technologies) with each establishing, reinforcing and stimulating the expansion of the other. That is, conceptual access establishes a network and the existence of a network creates access, which results in a mutualistic relationship benefiting both.

Moreover, the fact that there is debate over net neutrality, which could just as easily have been an issue raised regarding any technological medium such as the telephone, television, or radio neutrality, intimates at the primacy placed on access-networks in general. Any introduction of internet-based products, services, and technologies without the ability to establish access-networks to sustain them would either cease altogether due to a lack of demand or fail miserably due to the lack of communication as a direct consequence of the absence of such access-networks.

A Contextual Framework for Understanding Technologies

Of interest to note is that not only may the desire to establish an access-network be viewed as a fundamental underlying principle or positive framework for development, but the absence of such access that may be considered a driving force in the development of technology in various formats as well. In fact, development of technology also may be driven by the desire not only to establish, sustain, or reinforce access-networks but to prevent the establishment of access and networks for a variety of purposes.

Examples of such negative frameworks for access-network innovation includes encryption technology used during online shopping, online banking, or remotely logging into a server for business or pleasure. That notwithstanding, in addition to the previous examples from a negative framework perspective, highways, a ladder, a long-handled back scrubber, a watch, a telephone, a voicemail system, a radio, television, e-readers, the internet, computers, encryption software, and a plethora of unmentioned technologies may all be considered leaves on branches of arguably the largest tree known as the Conceptual Access-Network tree situated in the forest of technology.

Unusual Example of Technology According to the Access-Network Principle: Insulin

Given the multitude of technologies that are either created by mankind or naturally occurring all of which serve a purpose of some sort, few if any neither revolve around a purpose of direct or indirect access nor concern a network of some form in order to function effectively. While both insulin and a microscope may appear unrelated to television or the internet, these technologies provide a means of accessing that (i.e., information or energy) to which there may not have otherwise been access.

Furthermore, I argue that in addition to ubiquitous solid-state physical forms technology, technology also exists in other physical states. For instance, liquid-state technology exists in both synthetic and naturally occurring chemical forms that can be situated within the Conceptual Access-Network framework if they facilitate or establish access-networks in some fashion. One of the most notable examples of a liquid-state chemical technology that is available naturally and in synthetic forms that facilitate or establishes access is Insulin. In fact, insulin provides access to energy sources in the body in the form of glucose and in no significant way differs from its solid-state technological counterparts in this respect, which aligns with the proposed thesis.

Access-Network and the Process of Change

It may seem as though there has been a considerable amount of change since the beginnings of the internet. The change of which we speak was arguably entirely mediated by the underlying principle of establishing access and networks anew or somehow reconfiguring so as to improve previous levels of access or existing networks. Although such a history of change in no way guarantees what will occur in the future, the exponential nature of technological growth and expansion (Kurzweil, 2006) does ensure that change in some form will continue to occur inevitably.

In order for a change to have occurred, the state of things post-change must either be better or worse than that pre-change. That is, to say, similar states before and after mean no substantial change has occurred. Despite the consequences of any particular change leaving society or those who comprise it in a better or worse position, regardless of whether we speak of science, technology, or the internet, the changing in itself that precedes the consequences of such change should always be considered good.

Many readers will contend that change can be bad, as in the case of developing malignancy after lifelong tobacco and alcohol abuse or losing one's job after twenty years of loyal service to an employer. However, the I argue that when one thinks of change being bad, the error that one makes is in misconstruing a relatively undesirable outcome with that which preceded the outcome itself. Certainly, having a malignancy and being unemployed may be viewed as bad, but in the former case should one be fortunate enough to survive with a new appreciation for life and all its potential, and the latter case where one's next job is even better than the one that was lost, the changes themselves that were once considered bad were actually quite good. Without the process of change, there would not have been an opportunity to be in a better position than before ultimately. That is, to say, the chance to improve is what the process of change affords us and is why it should always be deemed good regardless of its respective product.

Change as a General Process Versus Particular Processes and Products of Change

It is crucial not to confound what we mean when we speak about the general process of change with a particular process or product of change. The process of change is always good in the general sense as was previously argued; However, when the context is taken into account, unlike the general process of change, the same cannot always be said true for particular processes or products of change. Furthermore, particular instances of the process or product of change are not necessarily identical, which implies that it is possible for one to be perceived as good sometimes while the other is viewed as bad at other times. It is the particular processes and products of change that merit explanation because they are responsible for the difficulty that we experience in interpreting the actual quality of perceived change because humankind only has the ability to perceive such change through particular instances of process or product that obscure the truth.

For example, change with respect to both the process of losing weight and the product of weight loss may both occur in two people. Nevertheless, losing pounds of weight as change (i.e., process) has the consequence of

weight loss (i.e., product) for the morbidly obese individual and is considered good, whereas the very same process of change that is losing pounds of weight that result in the product of weight loss for an anorexic individual would be regarded as bad. The emphasis is on the importance of understanding that neither the particular product nor the process to which one attributes the product may be good or bad in and of itself. Nonetheless, if a qualitative characteristic is to be attributed, then it may only be so to the product of change (e.g., the weight lost is good) and is relative to the context (e.g., when an obese person) of a particular situation (e.g., loses weight) in which it occurs the products and services of the internet have often changed resulting in both well-received and not so well-conceived products of the modification. It is ultimately the fact that the process of change continues, which means that the opportunity for the improvement of future goods and services still exists.

The Future of Internet Services and Products

According to the Conceptual Access-Network Thesis tenet, the development or success of future internet-based products, services, or technologies will be directed toward creating and requiring access and networks to satisfy the social needs of potential users. Users always want and need products, services, and technologies that revolve around networks and provide some form of access. The varieties of access-network permutations consist of those that are direct and others that are indirect. Direct connections include such those that result in user to user, user to product, and user to service options. In contrast, however, indirect combinations satisfying the access-network requirement include chaining user, product, or service through either a service or a product that acts as an intermediary between the variety of direct permutations. Indirect permutations are infinite and could include combinations such as user to product/service to user, user to service to product, or user to product to service to user. Whether direct or indirect, access-network permutations satisfy consumers expectations by meeting their social need for interconnectedness even if that with which a consumer is connected is not another user.

Novel and existing Internet-based products, services, or technologies will either allow for actual interconnectedness to be experienced between users or users and products or services or at the very least give consumers the illusion of experiencing them. The sense of interconnectedness experienced through real-time verbal (e.g., audio calls, video calls) and nonverbal communication (e.g., texts, chats, IM, photos), or asynchronous modes (e.g., email, ecards, e-vites, e-gifts through Amazon, etc.) is something that will continue to evolve and certainly include more options to introduce new Internet technologies into personal aspects of social interaction and experience in the future. As products and services geared toward more intimate social experiences than marriage, dating, and personal encounters are demanded by consumers, I foresee technology becoming widely available to facilitate this goal specifically.

Distortion of the Intimate Stranger Phenomenon

An example of technology currently establishing itself is virtual reality (VR). VR was pioneered in the 1960s by Morton Heilig's work on the Head Mounted Display (HMD) device (Burdea and Coiffet, 2003) and is quickly becoming a mainstream technology. Although it is mainly found in the gaming world at the time of this writing, virtual reality devices and technology will eventually be used to allow for a full range of personal social interactive experiences via the internet that are reminiscent of the Sensorama Simulator of Heilig (1960), which provided users with sensory stimuli that immersed them in the experience. When coupled with the surge in availability of personal genomics products and services that use next generation sequencing to code individual genomic data, eventually both virtual reality and personal genomic information will fuse into new Internet-based intimate social experience services and products that can provide an extremely nuanced virtual social experience that will be based on information contained within the genetic data.

The first concept that might result from the fusion and widespread availability and access to a network of personal information without or before the personal is a distortion of the familiar or intimate stranger phenomenon (Milgram Blass, 1977). Interestingly, Dr. Milgram is known for his social research and small world experiment that investigated the connectedness of social networks giving rise to what is commonly referred to as the six degrees of separation theory (Milgram, 1967). In other words, relying on the foundation of the

Conceptual Access-Network Thesis, efforts to predict the future of Internet-based products and services for 2017 and beyond sparked the idea of a warped intimate stranger phenomenon, which led to Milgram's original work in 1967 nearly fifty years ago. Moreover, Milgram's work preceded the first use in 1969 of the internet's precursor ARPANET for computer-to-computer communication by two years (Volti, 2009).

A Reversal of Ordering

The reversal of ordering at the center of the distorted intimate stranger phenomenon results from the familiarity of gaining initial exposure to one's personal genomic data before ever meeting or getting to know them. An unintentional consequence of such a reversal is that, by first having the opportunity to know the most personal information of another that normally requires many years of relationship, people will subconsciously associate having this intimate information with knowing another very well without necessarily knowing anything of substance at all. As far as this is concerned, it does have the potential to ease the process of establishing new relationships since the awkwardness of knowing nothing about someone the first time they meet is alleviated. Nevertheless, it may backfire instead by supporting ignorance and misinterpretation when used to justify social rejection.

While it is not my intention to portray a bleak future regarding the development of new Internet-based products and services, but I argue that the evolution of products, services, and technology according to the access-network thesis will become problematic socially at first, then professionally soon after that. The lines between personal, social, and professional will become much more blurred than they currently are with nepotism being supplanted by discrimination (or favoritism) based on genetic information. People may ultimately use personal information as the basis for the social rejection of another, or cost another their professional livelihood. Such blurring as an unfortunate consequence of this hypothetical scenario could exacerbate extant social injustices with which society already deals and motivate the occurrence of others. The usage of Internet-based products and services with malice could easily trigger the desire for retribution in the slighted who would then feel justified in committing mass murder in a former workplace, or otherwise targeting people whom they believe are responsible. As unsavory as this scenario may be, it would not be possible without having access to information and people, or the existence of connections through a network of Internet-based information services and individuals, which is in alignment with the Conceptual Access-Network Thesis.

Conclusion

Although it may be argued that satisfying consumer needs play a major role in the development or success of new Internet-based products and services, I argue that the development or success of any new Internet-based product, service, or technology is really contingent upon how well it satisfies the criterion of providing access to or creating a network of, potential users, products, and services, which the I propose as The Conceptual Access-Network Thesis. The original concept of tying together computers by DARPA relied on two notions to achieve this end: access and network. Although there have been periods of change throughout the development into its current form, every Internet-based product or service that has existed has been grounded in the ideas captured in words such as access, system, group, and connection. While the products that resulted from the changes have not always been improvements, the process of change through which the internet and all things go should be viewed as good regardless of the outcome.

It is the opportunity to improve that the process of change affords us to which we should attribute the qualitative characteristic of good, as there would otherwise be no way of accurately assessing the status of outcomes, determining their context, or deciding that the process of change may be warranted. Outcomes as products and services that are internet-based subsequent to an instituted process of change driven either allow for previous conditions to be fully appreciated for how great they were, which acts as a social force to drive reversion to the former state at worst, or compel society to surpass the previous state of affairs by distancing itself at best because the conditions were much worse than originally thought. In the latter case, it is only through change that previous conditions may be appreciated because accurate assessment cannot be accomplished while entrenched firmly within a situation regardless of whether it is good or not. With respect to the continual process of change

and context, it is ultimately through each that the other may be achieved and appreciated; in contrast to the process of change and context, however, whatever conditions in which society and technology find themselves, stagnancy will always be unfavorable as opportunities for improvement can never exist. As it specifically relates to internet products and services as a whole according to the Conceptual Access-Network Thesis, what would the core notions of access and network be about if not opportunities to improve? Given the fact that the internet provides the opportunity for improvement, as is the case for the process of change, regardless of the products that result, the internet will always be good.

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