Virtual Reality and the Languages of Technology

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Abstract

This paper centers on the electronic communication revolution's virtual reality (VR) stage, contending the computer revolution redefines reality and communication in contemporary electronic culture through VR, electric language, languages of technology and its spiritual (integrative, transformative, identity-influencing) aspects. It selectively inquires into concepts, processes, issues, and applications related to electronic communication in the work of techno-theorists Walter Ong, Michael Heim, Charles Bazerman, and Ray Kurzweil, with supporting perspectives from Plato, Leibniz, Heidegger, and Boole. It asks "what's real anymore?" contextualizes changing sensoria, the shift from digital interface to cyberspace to VR, electric language's new psychic environment, technology, values, and spirituality in cyberspace, Edison and the languages of technology, and transcendence in technology. It contends meaning and balance in selfhood and culture requires correlating new languages, logics, and VR environments with increased spiritual self-understanding.

"What's Real Anymore?"

In late summer 2002 "Simone," co-starring Al Pacino playing Viktor Taransky, a movie director needing rejuvenation in his career and personal life, came to theaters. Pacino-invented Simone, a digital actress of great beauty and attraction, abridges "Simulation One" (Niccol, 2002). The simulated actress wins hearts, audiences, and stirs co-workers. Since this digital star saves Taransky's career, she asks "who invented whom?" The movie asks "what's real anymore?" In a remote interview Simone, shielding her cybernetic identity from curious

co-actors, says “I relate better to people who aren’t there." Near the film’s end we hear “we’re concerned about what kind of world our son ‘Chip’ will grow up in." These questions mirror the electronic communication revolution’s virtual reality (VR) stage. Innovations in technology, the arts, sciences, and entertainment challenge us to “get real” (virtually and otherwise), to see how we invent and reinvent ourselves through VR. A theme in “Simone” is “a star is digitized." We may puzzle over what digitized stars mean for entertainment and over digitization’s profound, diverse meanings. This paper, extending a prior one, (Phillips, 1990) argues the computer revolution redefines reality and communication in contemporary electronic culture through VR, electric language, the languages of technology, and its spiritual (integrative, transformative, identity-influencing) aspects. Inquiry into concepts, processes, issues and applications related to electronic communication enhances vision of its antecedents and consequents through technomedia philosophers Walter Ong, Michael Heim, and Ray Kurzweil, with supporting perspectives from Plato, Gottfried Leibniz, Martin Heidegger, George Boole, and Charles Bazerman. Communication is integrative of the arts and sciences since communicating and processing information is essential to all and “all arts and sciences are unitary in that they all involve symbol systems whereby a way of looking at and presenting reality is seen” (Phillips, 1992, p. xvi). Correlative, interdisciplinary dialogue is urged between communication, intercultural and technological studies, literature, film, philosophy, psychology, computer science, etc., contextualizing reality in ever-changing symbolic environments.

Technological revolutions challenge us to ask how electronic and related languages represent virtual or other realities. Finding wholistic meaning stimulates many questions: How do technological contexts change logic and language? What effects occur as technology reprocesses, simulates, or transforms us? How do electronic communication systems embodying consciousness change symbolic environ-ments? How do telepresence and other VR forms change relationships? How is global communication revolutionized by artificial intelligence, enhanced information processing and VR applications in business, medicine, art, music, writing, with privacy, security, crime, and terrorism concerns? How is literacy, learning, and consciousness-spirituality affected? Technologies represent new and established languages we need to understand like the “languages of Edison’s light” (Bazerman, 1999). We exist in a global symbolic environment presenting a multiplex of languages, historically, presently, futuristically, such as languages of predigital society, telepresence, VR, and accompanying logics. Technology use awareness is needed to protect freedom of thought, expression, and social well-being. Looking forward, backward, peripherally and inwardly helps us see where we were, are, and are headed in meaning-creating systems. Communication technologies, their symbolic environments and languages, touch expansive dimensions and mysteries of

ourselves, our machines, our universe, and ultimate meanings.

Changing Sensoria

Walter Ong (1971) elucidates rhetoric's integrative power revealing shifts in media and knowledge storage and retrieval shaping technological culture. Rhetoric mediates between the conscious and unconscious psyche. Ong correlates communicative modes with stages of psychic development and communication media reflecting world views, personality, and culture. He relates much to the "changing sensorium," how media configure our senses (Ong, 1967). Part of the shift from oral to print to electronic culture is computer technology's reduction of knowledge to information bits. Influenced by Ong, Heim, and Kurzweil, I suggest further stages or substages of electronic technological culture be identified: electronic interface, cyberspace, and VR, symbolic, simulated computer environments redefining reality. Techno-philosopher Michael Heim, influenced by Ong, probes computer effects, expecting more revolutionary changes like full VR enabling immersion in computer simulated real and imagined worlds. He examines hypertext as a new literacy facilitating sensory integration. More than a perceptual or paradigm shift, the digital and virtual revolution is seen as an epistemological and ontological shift transforming life's wholistic context: consciousness, knowledge, relationships, environments (Heim, 1993, pp. x-xii). Predigital, digital, now virtual symbolic worlds evidence dramatic ontological change and the arts and sciences share a radically reorganized reality affecting languages and communication.

From Digital Interface to Cyberspace to VR

Heim sees shifts from digital interface to cyberspace to VR. William Gibson clarified the term cyberspace, including human-computer symbiotic relationships. Jaron Lanier described virtual world entry by the term VR. Heim looks to Plato and Leibniz for cyberspace's psychic origins, seeing VR as philosophical, religious, metaphysical. He probes VR's variant definitions and visions and technology's language acceleration and modification (Heim, 1993, pp. xv-xvi). Language technology radically changes language interaction, creating a global computer network with revolutionary social effects as in China's 1989 Tiananmen Square pro-democracy protests and the "iron curtain's" destruction. Literary texts are increasingly electronic, their fate elusive. Heim cites Martin Heidegger's concern that his writings might be cybernetically consumed as information. Both signal concern for language represented as electronic data in ways exalting information over significance. Information is managed at electronic speed but language significance requires looking beyond to wisdom behind knowledge, avoiding a total control logic demanding instant, simultaneous access, and information overload lessening significance. Libraries become "information centers." Heim wants to restore their original meaning as places for musing,

discovery, play, and visioning (Heim, pp. 8-9, 25-26). Like Ong, he wants to keep relationships between rhetoric, romance, and technology alive.

Electric Language's New Psychic Environment

Heim regards Boolean search logic as a critical achievement in modern language, computer age metaphor, way of life and questioning reality, a major shift in relation to thought and language reflecting electric language's new psychic environment. The computer interface reverses direct and symbolic language roles. George Boole, 1815-1864, conceived of language as a symbol system in a mathematical logic encompassing traditional logic (which presupposed real world subject matter). Boolean search logic reduces language to abstractions, prioritizing system, distancing users from knowledge sources, direct experience, scanning vast information areas with keywords, buzzwords, and "hits" increasing information coverage but limiting vision. Boolean searching time restrictions may limit comprehension of earlier or peripheral events (Heim, 1993, pp. 13-26). For Heim authentic meditation requires multi-directional freedom, intuition, musing on symbols enabling us to receive not just control.

Heim looks to Plato and Gottfried Leibniz, 1646-1716, who "founded modern logic as the science of symbols," for psychological and spiritual origins of cyberspace. Leibniz' work foreshadowed hypertext through his concept of a universal language. His computer prototypes influenced John von Neumann in using "Leibnizian binary numbers" in developing digital computers. He was "a courtier, diplomat, and ecumenical theologian" envisioning international unity and integration of learned disciplines, a rationalist and idealist promoting global cooperation based on using "a universal system of symbols for all the sciences." He thought all problems in principle soluble believing a universal language could translate them in a logical calculus demonstrating their truth or falsity, consistency or inconsistency. He thought common language and calculation would create common ground through a unitary symbolic system correlating human thought, scientific research, absorbing all cultures and languages in a single database. He thought human intelligence should model the synoptic, instantaneous, simultaneous character of divine knowledge (Heim, 1993, pp. 35-37). Leibniz' influence is felt in Heim's probe of "Hypertext Heaven," its unlimited cross-referencing capacity, "electronic intertextuality," instant virtual presence of texts, contextual, commentary information, theme identification, and textual multi-dimensionality.

Technology, Values, and Spirituality in Cyberspace

Heim highlights conflicts between technology and human values in Heidegger, who regarded technology as central to metaphysics and the "root evil of the twentieth century," including its role in Nazi Germany. He bridged

predigital and computerized worlds and references electronic revolution effects. He said “maybe history and tradition will fit smoothly into the information retrieval systems that will serve as a resource for the inevitable planning needs of a cybernetically organized mankind” (Heim, 1993, pp. 54-55). He was concerned information processing might encompass thought and calculative destroy meditative thinking. His concern bridges transitions from interface to cyberspace to VR (from interactive communication with separate machines to symbolic environments influenced by electronic communication to computerized alternate realities). Both philosophers interpret technology’s essence as a mode of being transforming humanity and ways of knowing. Computers-- Heidegger’s “language machine”--control language use. Heidegger said human control of the language machine is illusory and “the truth of the matter might well be that the language machine takes language into its management and thus masters the essence of the human being” (Heim, p. 60). He warned of a technology takeover of language. By contrast, Ong’s view of cultural transformation expresses religious optimism seeing the global electronic network as a way to closer community. Heim sees Ong as viewing electronic media as achieving an Hegelian synthesis of oral and print literacy, preserving but transcending them (Heim, pp. 68-69).

Heim thinks existential criticism exploring technologies enhances awareness of computer interfacing, cyberspace, and VR. Prevalent electronic devices create a cybernetic culture, the computer becomes a sacred object or sanctuary, and users are wed to their processors. The technological marriage’s next stage moves from “appliance to interface” and “the newlyweds begin to influence each other." Interface is a buzzword and keyword with meanings ranging from media hardware like HDTV and peripherals to personal interactions to medical and space imaging, telerepresentations and simulations. “Augmented reality” tries to break through interface to an electronic realm where reality and symbolized reality constitute a third entity: virtual reality.” An interface exists when a user connects with an interactive computer system as “two or more information sources come face-to-face,” the “mysterious, nonmaterial point where electronic signals become information." Heim traces interface’s meaning to ancient Greeks who spoke in awe of “*prosopon*, or a face facing another face,” whose interactions constitute a mutual relationship then existing as a third entity. The ancient term “once glowed with mystic wonder”and Christians used it to describe the Trinity, a divine interface (Heim, 1993, pp. 74-77). Interfaces are ways into cyberspace, a term carrying some mystic aura of the ancient term for interface. We enter cyberspace as we move through an interface into a computerized, artificial or simulated world with its own psychic rules and organization, a “self-contained cyberspace” of interactive information experiences. Heim asks about ownership and awareness entering cyberspace: “where are we when software architects shape the datascape into endless mazes of light attracting us like moths to a

flame?" He sees destiny in technology “that may be our fate, even fatal." Cyberspace controls thought with system language and processes though we give commands. Unaware, we are locked into and yield our identities to cybersystems subtly controlling thought, language, symbols, and simulations. Users may lose intellectual and sensory self-awareness therein. Heim cautions we need to preserve and enhance awareness powers to attend to “primary and secondary worlds at the same time” (Heim, pp. 78-81).

Heim sees cyberspace as a way to explore reality. Virtual world design raises issues about identities, cyberworlds, investing them with prejudices, cyberworld architects, user inputs, and the need for virtual worlds. Heim links Platonic idealism and Leibniz’ metaphysics with cyberspace. He finds erotic, aesthetic-like desire in creating and inhabiting cyberworlds, “a symbiotic relationship” and ultimate union with technology (Heim, 1993, pp. 82-84). Cyberworlds’ “pure information” transfixes senses and emotions with intense desire to transcend limits. Human desire needs release from entrapment to shadowy, illusory sensory stimuli as in Plato’s classic story of the Cave, analagous to computers in comparing the psychic lure of flickering and fiery sensory objects. Only as we “ascend to the realm of active thought” is reality seen clearly. Release from the Cave requires reeducating human motives and recognizing sensory world attractions project internal ideas. For Heim “cyberspace is Platonism as a working product,” its knowledge concretized as “inFORMation,” its “dream of perfect FORMS” electronically transformed as “the dream of inFORMation” (Heim, pp. 86-88). Leibniz, “one of the essential philosophical guides to the inner structure of cyberspace,” generated a logic, metaphysics and concept of symbols revealing cyberspace assumptions and paradoxes. He influenced Heidegger and first conceptualized “electric language, a set of symbols engineered for manipulation at the speed of thought." He outlined “a language that became the historical foundation of contemporary symbolic language”and this artificial language, distant from common speech and language, became computer communication’s philosophical basis. Leibniz’ electric language emulates divine intelligence in its “all-at-once-ness” (Heim, pp. 91-94). Connecting VR and electric language with the psyche’s innermost passions and quest for Ideal Forms of knowledge, Heim discusses cyberspace’s cultural paradoxes like universal communication but less community. “The cyborg, or cybernetic organism” suggests the conscious mind directs but simulated selfhood cannot completely capture or represent our vulnerable, essential identities. The more we mistake “cyberbodies” for ourselves, the more “computer communication cuts the physical face out of the communication process” and puts “the windows of the soul behind monitors, headsets, and datasuits,” the more loyalty and ethics may abate. Long term “online culture” effects on community and computer crime raise issues. Relationships “outside embodied presence” may lack endurance or depth. Heim says “the face is the primal interface, more basic

than any machine mediation" and "the physical eyes are the windows that establish the neighborhood of trust." Lacking direct facial interaction, "ethical awareness shrinks and rudeness enters." Civility becomes an issue. "Electronic life converts primary bodily presence into telepresence," distancing represented entities. If cyberspace's structure "follows the model of Leibniz' computer God" it "rests dangerously on an underlying fault of paradox" revealing tension between ideal knowledge and a total information management threat of centralized surveillance, monitoring, censoring, etc. (Heim, pp. 100-104).

Examining VR's essence, Heim discusses seven conceptual directions guiding VR research: "simulation, interaction, artificiality, immersion, telepresence, full-body immersion, and networked communications," each viewable as technological languages. What might be called virtual languages (languages involving these concepts and virtual world interconnectivity) may also be seen as what Lanier calls "post-symbolic communication," moving VR communication beyond ordinary languages. Since users configure objects and activities in virtual worlds they can share fictional "things and events without using words of real-world references." VR expands linguistic and spiritual boundaries. Heim says "communication can go beyond verbal or body language" to assume mystical qualities with previously unknown combinations of sensory stimuli in unique environments and new grammatic or syntactical structures (Heim, 1993, pp. 108-127). Technological visions capture the essence of innovations, stimulate cultural incorporation, touch conscious and unconscious motives, literary, artistic, spiritual, noetic and techno-scientific desires. VR's essence compares with symbolic, transformative dimensions of art (Heim, 1998). Heim says "ultimate virtual reality is a philosophical experience, probably an experience of the sublime or awesome." He thinks "the final point of a virtual world is to dissolve the constraints of the anchored world so that we can life anchor--not to drift aimlessly without point, but to explore anchorage in ever-new places" and find meaning in Leibniz' question: "Why is there anything at all rather than nothing?" (Heim, 1993, p. 136). VR increases ethical choices in areas like health, business, defense, and freedom of expression. For Heim VR's ultimate promise may be transforming reality awareness. Do we "enjoy the security of a primary reality" of some civilizations and "trace a sense of unified reality back to a single God or point of origin?" Can we find "existential anchors" to separate primary from virtual realities? (Heim, p. 143). Heim's techno-philosophy raises intriguing questions about VR's nature, language impact, ontological and ethical questions accompanying technological languages.

Edison and the Languages of Technology

Charles Bazerman's study, *The Languages of Edison's Light* (1999), contextualizes the role of various languages in promoting technological visions. Edison and colleagues spoke to consumers, co-workers, media, politicians,

scientific-technical communities, etc., adapting new languages to existing discourses to create presence and value for emergent technology in laboratory, corporate, media, legal and marketplace contexts (Bazerman, pp. 1-4). Though Edison is known as a superlative inventor for the electric light, movies, and phonograph, this story focuses on symbolic representation of technological innovations with representative texts: lectures, letters, laboratory, political, corporate communications, narratives, media and legal documents. Edison was extolled as a new type of scientific-technical heroic figure, charismatic visionary, genius, wizard, magician, an image enhanced by personal qualities combining daring, humor, approachability in “an uncommon common man." His Menlo Park Laboratory was “an exotic locale,” he “the perfect media star of his era of democratic progress” (Bazerman, pp. 18, 36). He embodied the essence and presence of languages and innovations he represented. His work was viewed as mystical, mythical, that of “a modern alchemist” whose work with “mysterious,” “supernal forces” enlightened humanity with “their largest idea of elemental power,” applying knowledge in new ways. These technological innovation documents reveal inventive, creative processes, problem-solving methods, charismatic leadership, team-building and communicative acts (Bazerman, pp. 47-50). “In the interactivity of the lab we see the most intimate of the languages of light, the language of its birth." This intimate language was surrounded by protective, promotional public languages (Bazerman, p. 84). Interrelated private and public languages provide insight into public communication systems and interaction with preexisting discourses. Bazerman underscores technological symbolism. Edison, the electric light and his other inventions were symbols of remarkable achievement, objects of pilgrimage and charismatic attraction. Fairs and exhibitions celebrated electrification in New York, Paris, London, etc. A visionary inspiring belief, commitment and action, he was a symbolic force around which electrification occurred (Bazerman, pp. 141-142). Electric lighting represented consumption, class, gender roles portrayed in metaphoric, poetic terms appealing to families, elegance, taste, practicality, and sexuality. Examining these appeals Bazerman finds it understandable “there was such a strong and immediate marriage between the technological marvel” and cultural aesthetic. He probes “symbolic invention” and “symbolic engineering." Edison and associates “accomplished the magic of communication, saying the right things at the right time to keep the endeavor unfolding and creating the right representations to keep their project before the eyes and in the minds of the relevant parties” (Bazerman, pp. 315-335). Bazerman’s intertextual analysis of varied contexts and languages models communication study of technical-scientific cultures.

Transcendence in Technology

Ray Kurzweil, a leading futurist and inventor endorsed by Bill Gates,

honored by MIT, etc., contextualizes concepts, issues, prospects, and applications portraying developments and making grounded predictions about computer technology advances. He provides insight into emergent virtual worlds and related languages. His projections test credulity for the cautious but challenge assertively: "when a scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong" (Kurzweil, 1999, p. 14). His coverage of cyberspace developments cannot be detailed here but some observations and predictions are referenced. He believes computers will surpass the brain's computational and memory capacity early in the twenty-first century and will soon have read all world literature. He sees cybernetic relationships developing with automated personalities in education, business, caregiving and romance with computerized entities showing human-like emotions. Computers will be ubiquitous, implanted in jewelry, clothing, VR displays embedded in contact lenses, glasses, distributed in autos and living environments. Most business transactions will occur between human and virtual personalities and computer collaboration with cybernetic musicians, poets, and artists will increase. VR environments encompassing all senses will facilitate interactions regardless of physical proximity and neural implants will "enhance visual and auditory perception, interpretation, memory, and reasoning" and those without them will be disadvantaged. Human cognition and electronic intelligence will merge. Reverse engineering brain scanning will advance computer language and knowledge evolution. Computers' identities and legal rights will be major issues. They will enter the physical world, collect knowledge and communicate it to each other. Computer memory seems transcendent in its vast capacity to store billions or trillions of facts and access them in fractions of a second while human memory is often taxed to recall a few common numbers. Combined human-level intelligence in a machine with inherent computer superiority in speed, accuracy, and memory sharing will be formidable. Profound philosophical, spiritual, and communicative issues will arise: questions about human and machine thinking, consciousness, personhood and intentionality (Kurzweil, pp. ix-x, 2-4).

Kurzweil views technology as inevitable and transcendent. He provides an excellent timeline for technological progress landmarks, past and future (Kurzweil, 1999, pp. 261-280). Reviewing this timeline one may ask: How have different languages advanced technologies? How have oral, print, and electronic languages conveyed technological innovations, convincing cultures to accept them? Does virtual personhood exist in computers? How do technological innovations express transcendence materially, socially, spiritually, aesthetically, artistically? Kurzweil contextualizes technological innovation, identifying its life cycles. Technologies "fight for survival, evolve, and undergo their own characteristic life cycle" in seven stages: 1-the "precursor" (visionary or dream) stage as in Leonardo da Vinci's portrayal of airplanes and automobiles;

2-"invention" where science and art create a new technology; 3-"development" during which invention is protected and augmented by further innovation; 4-"maturity" during which the technology becomes independent and culturally established; 5-"pretenders" in which rival technologies challenge it (as the virtual book challenges traditional ones); 6-"obsolesence" where the technology gradually declines and is replaced by a competitor; 7-"antiquity" where the technology goes out of date like the manual typewriter, horse and buggy or phonograph (Kurzweil, pp. 19-20). Technological transmutation reflects motives, values and transcendence.

Virtual brains, virtual bodies, and virtual environments are in Kurzweil's futuristic scenario. He believes "neural implants will provide the simulated sensory inputs of the virtual environment--and your virtual body--directly in your brain" and these environments will "include a suitable selection of bodies for yourself" as with cyberactress Simone. "In the virtual world, you will meet other real people and simulated people--eventually there won't be much difference." Kurzweil sees VR as the "essence of the Web in the second half of the twenty-first century" and a "typical 'web site' will be a perceived virtual environment" with full sensory realism in which varied VR experiences will be possible, such as historical, travel, business, personal relationship experiences, virtual love and sex. He believes computers will eventually evolve their own bodies through nanotechnology--building machines one atom at a time (Kurzweil, 1999, pp. 135-147). His discussion of neural net programming, attempting to replicate brain structure-functioning, super-computers, laser, optical, quantum computers and molecular computing raises questions about their VR potentials and effects on communication, languages, and relationships (Kurzweil, pp. 100-131). These developments have implications for building new brains, new bodies, and new environments for real and simulated experiences, shaping new languages, beliefs, attitudes, values, and changing relationships in cyberspace.

Kurzweil sees the artificial intelligence movement as "a new form of intelligence on earth" and notes the historical Luddite Movement, referencing the anti-technological protest of workers displaced by machines in the early Industrial Revolution, symbolically taking form now as at other times in history as "The New Luddite Challenge" (Kurzweil, 1999, pp. 66-88, 179-182). Not all workers are pleased with technological evolution's impact on lifestyles, employment, or decisionmaking. The study of technological movements, pro and con, is promising and links with many historical and contemporary developments as in the discontent of social protesters like the sixties' Mario Savio, concerned with the perceived problem of automation, a-historical perspectives of corporate and university America, and depersonalizing effects upon individuals (Phillips, 1985, pp. 245-251). Contemporary analyses of technological movements can offer broad-ranging perspectives on the nature, effects, and issues involved in evolving technologies.

Like Heim and Ong, Kurzweil sees spirituality in technology. He relates “the spiritual experience” to a “feeling of transcending one’s everyday physical and mortal bounds to sense a deeper reality” and believes we will be able to retrieve and enhance such experiences when we understand their “neurological correlates." He believes consciousness or being is spirituality’s essence. He projects machines will claim consciousness, hence spirituality, and be believed. Twenty-first century machines will emulate humans in “going to real and virtual houses of worship, meditating, praying, and transcending--to connect with their spiritual dimension” (Kurzweil, 1999, pp. 151-153). VR’s transcendent nature is illustrated in Heim’s and Kurzweil’s discussions of cybernetic generation of music, poetry, and art. (Heim, 1998; Kurzweil, pp. 158-167). Cyberart, music, and poetry, some assisted, some robotically produced, reflect spiritual capacities of computer technologies. Computers are cultural co-creators and creators. The continuing technological and VR revolution Kurzweil envisions features increasingly personal computers in our environments, persons, personal and professional lives. Virtual environments will replace online chat rooms. Most business transactions will be online, often with animated personalities assisting. “Virtual malls” for online transactions will be popular. “Most visual art” will be collaborative between human artists and art software. Virtual paintings will be popular and interactive art displayed at verbal commands will be in art collections. Interactive virtual entertainment software will enable virtual travel or “intimate encounters with your favorite movie star." Telemedicine and distance medical care will increase. Doctors will “train in VR environments." There will be “software-based simulated teachers,” increased distance learning, more computer assistance for disabilities like blindness and deafness. The Web will continue as a “centralizing force for multimedia activity,” focusing business, entertainment, research, etc. Cybernetic assistants, teachers, lovers, workers, authors, musicians, and artists, will bring VR and the languages of technology to new frontiers and users to new spiritual and other experiences. Perception, memory, and language will function in new environments (Kurzweil, pp. 189-205). Ong’s sensorium will continue changing, our senses enhanced and channeled in new environments with new technological languages. Human and machine worlds will converge, linked by electric languages.

Conclusion

Kurzweil envisions increased autonomy for intelligent machines foreseeing many leading artists as machines, a blurred distinction between human and machine intelligence and spiritual emergence of intelligent technology (Kurzweil, 1999, pp. 222-224). Accordingly, how will we balance primary and secondary realities? primary selves and virtual selves? Will we replicate ourselves technologically? How will languages, technological and others, bridge these realities? Do computers and humans share like destiny? Where is the

human-machine interface and VR leading? As the history of communication continues we need historical and futuristic perspective to make humane choices using VR, technology and its languages. In *Virtual Realism* Heim (1998) further explores VR technology, research, and aesthetics, critiquing views of technology proponents and opponents of "the movement of life into electronic environments" (p. 37). He counsels commitment to balance, recognizing technological advantages and disadvantages in the electric culture debate about the kind of worlds we inhabit.

Mathematician-philosopher Norbert Wiener probes spiritual aspects of cybernetics. He touches on human-divine creativity, asking "Can God play a significant game with his own creature? Can any creator, even a limited one, play a significant game with his own creature?" (Wiener, 1985, p. 24). Recent cybernetic developments amplify Wiener's questions. Like Heim, he counsels balance in giving humans and computers their due, advocating study of systems correlating both human and electronic considerations. In examining VR and the languages of technology this paper has adumbrated aspects of the cyberrevolution including questioning "what's real anymore?" referencing changing sensoria, examining shifts from digital interface to cyberspace to VR and electric language's new psychic environment (with historical antecedents and consequents), exploring technology, values, and spirituality in cyberspace, Edison and the languages of technology, and transcendence in technology. Our existential selves, encoded in cultural creativity, operate in new and virtual symbolic worlds; our social, encountered selves increasingly must interact in computerized environments; and our technological selves, extended into new media and VR environments, call for new languages, logics, and increased understanding. We transform our symbolic environments and they transform us. If we are to maintain meaning and balance within them we must correlate existential, social, and technological aspects of self and culture.

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The programming language Augmented Reality Markup Language (ARML) is the current standard for setting the location and appearance of a virtual object. Content management â€“ Content management is a back-end technology incorporating a system that maintains a database of virtual objects and 3D models. Interface â€“ Whether itâ€™s a video game or a technical management tool, the interface is the intermediary between the user and the video representation of the augmented reality environment. Development toolkits â€“ A variety of open source and proprietary technologies are used to give programmers a framework for building AR applications on the platform of their choice. How does augmented reality work on mobile? Virtual reality is a technology that allows to move multiple activities into the virtual realm and thus reduce the costs, the time, and â€“ in some cases â€“ even the corporeal risks related to performing these activities in biological reality. Adoption of VR Technology. In 2020, the global VR market accounted for $6.1 billion, and it is projected to reach $20.9 billion by 2025. The marketâ€™s key driving force is the growing affordability of VR-enabled hardware. 61% of businesses believe that VR is beneficial. Out of them, 23% are already using VR in practice, 21% introduce VR right now, and 18% plan to introduce VR soon. Virtual Reality Technology Application. VR in Healthcare. VR for Medical Education. Virtual reality language learning. Yes, you read that right. Learn about 5 awesome VR tools available to anyone that support language learning and fun!Â And the best part about the future is that technology isnâ€™t just limited to entertaining options that will impress your friends. Technology can also help you improve yourself, and that includes your language skills! From language apps to language learning systems to innovative language learning tools, technology is changing language learning.Â Meanwhile, virtual reality, the latest player on the language learning scene, can help you practice your language skills like never before. Virtual reality (also called â€œVRâ€) uses computers, phones, tablets, headsets or other devices to simulate a real environment. Virtual reality (VR) is a simulated experience that can be similar to or completely different from the real world. Applications of virtual reality include entertainment (e.g. video games) and education (e.g. medical or military training). Other distinct types of VR-style technology include augmented reality and mixed reality, sometimes referred to as extended reality or XR. Virtual Reality applications are setting fire by capturing the list of top downloaded applications in both Play Store or App Store.Â The way we enjoy media and games will be totally changed with the arrival of top-tier virtual reality apps as it can completely immerse us in an alternate, 3D world using VR headset that tracks movements of head along with other accessories such as motion-tracking controllers and headphones. The vital difference between normal games and VR application is that you have to create or render a viewpoint for each eyes. To develop compelling VR experience , developer needs to deliver the highly consistent framework and an exclusive combination of audio and 3D effects along with top notch programming.