FACILITATING ORGANIZATION AND CONTROL OF MULTI-MEDIA PRESENTATIONS BY GENERALIZING A NEW DIGITAL MEDIUM (EDDSWEMM)

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ABSTRACT

This paper shows how a new, green, paperless, digital medium, EDDSWEEM (Electronic Digital Display With Embedded Multi-Media), may be generalized to facilitate organization and control of multimedia and avoid difficulties observed in a human speaker and multi-media presentation recently. At an Easter program this year, multi-media were used in a presentation of oral, musical, lighting and large screen digital displays where there were problems getting a video to work. A presenter used a remote clicker and read from a digital screen when progressing through his talk with some periods of difficulty because of the distractions of using those means of control. EDDSWEEM was recently described at a presentation at the 2018 annual conference of the International Society for the Systems Sciences in Corvallis, Oregon, as applied to literature and the theatre.

The new medium uses the Microsoft Windows operating system and Microsoft Office Word--standard on many PC based computers--as a display medium. As pointed out in 2018, many media may be embedded in Word document and controlled and displayed by continuous of the. Using the new medium, Word documents are controlled and displayed by continuous scrolling of the Word file without page boundaries and with appropriate clicking of icons or links. Such media may include other MS Office APPs. Testing of such "scripts" before a presentation/performance ensures freedom from the difficulties noted above; this principle may be applied more generally--limited only by imagination of the script author. The action of using the new medium and the varied content provides increased stimulation of the audience central nervous system (cool-ness). With it there are also productivity gains, and increased information communicated in the same amount of time by paralleling oral presentation with the digital display. Obviously this format is deaf inclusive.

This paper includes a cursory review of past media and asserts that, generally, they are subsumed by a new medium--at least over time--a new addition to media theory.

As shown in the 2018 paper, a new medium requires a new format, and the new format spurs creation of new content. As applied to augmentation of contemporary theatre and a new, stand alone literary genre, this new content may move away from storytelling only, and move more toward delivery of information about ideas. As an example (but in no way example-limited), the idea of an emotional situation may be dramatized in theatre or displayed for a single "reader" on a computer monitor. This idea orientation is generalized in a simple idea oriented play production model augmented by EDDSWEMM--an addition to theatre theory. That model is then generalized for any live speaking presentation augmented by multi-media. This subject affords opportunities for new research in the fields of Information Science, Media Studies, Communication, English, Cultural Change, Deaf Education, Drama and presentations.

FACILITATATING MULTIMEDIA PRESENTATIONS WITH EDDSWEMM

Keywords: New digital medium generalization; theatre theory; media theory; presentation organization and control; EDDSWEMM update.

INTRODUCTION

My research involves how the communication medium of theatre (theatre system) changes with projection of a new communication medium (EDDSWEMM script), and what system diagrams of theatre--before and with the new medium--may look like.

After finishing this paper, I found that additional keywords might be useful. They are:

New Keywords: Isomorphic Theatre Production Process System Diagram; Non-Isomorphic Theatre Production Process System Diagram; Culture Change' Multi-Channels; Multiplexing; and Elements of the Communication Process. "See the **New Material Not in the Abstract"** subsection for a listing of new material not abstracted.

Context

In 1992, I completed my initial study of Word Viewability, Complexity and Productivity (Buckner, 1992) at the Claremont Graduate School[i] in the Information Science Department. In the top part of the hourglass model of experimental design (Buckner, 2017), I considered many forms of display-digital display being a newer medium than paintings, sculpture, theatre, print, photography, drama, etc. ISSS presentations and publications in the '90's—the latest being (Buckner, 1994)--summarize this work.

Upon retirement from computer and information sciences--mostly in aerospace--I took up playwriting with the intent to marry Information Technology with Theatre. I felt comfortable ignoring the standard theatre format (Buckner, 2018) and developed my own style--even incorporating production cues in paper scripts. I have written 14 plays of different lengths and genres, originated an Emotional Truth genre and a standalone multi-media genre that embeds media in a Word Script. A recent ISSS presentation and publication in Vienna, Austria (Buckner, 2017) summarizes this work. Because of the corruption of some numbers or letters designating parts of the Viewability construct and three ways of measuring productivity, this paper is restored to its original form in Supplement 1.

I then moved toward a green, paperless, projected theatre script with no page boundaries (EDDSWEEM)-a new medium with a new format (Buckner, 2018). An ISSS presentation and publication in Corvallis, Oregon, USA (Buckner, 2018) summarized and included examples of this work. The new medium may be thought of as multiplexing the different media to be demultiplexed by projection.

In moving toward generalization of application of this new digital medium, the expansion of the bottom half of the research design hourglass is illustrated in this paper. I show here that the new medium applies equally well to human speaker presentation systems and to theatre systems.

FACILITATATING MULTIMEDIA PRESENTATIONS WITH EDDSWEMM

Some Definitions

Boundary—A gradient in a field,[ii] the limit of ideas under consideration, the limit of elements in a system separating them from those not in the system

Channel—One information delivery path--through one transmission physical substance such as wire or air, or space--including encoding for sending and decoding for reception. One TV channel is an example.

Communication--the ability of a sender to send a message and a receiver to understand it; the most distinguishing ability of the human species.

Control--for the purposes of this paper, causing or limiting changes in the display, playing of recorded sound and music (including the rate of scrolling), and determining freedom from error.

Cultural Change--the influence of cultural capital on individual and community behavior**.**[iii]

Digital Media--means of communication of information such as by using teletype, paper tape, computer monitors, Internet, data CD's, texting, thumb drives, cell phones, Faxes.

Display--depicting information in a visual form.

Feedback Loop—Part of a system comprised of a detector, possibly a set point, and a comparator that regulates the system process to help achieve desired outputs.

Isomorphic System--a system with the same or "similar" (enough) form, internal structure, internal processes, functions and results. The sameness may be regulated by a set point in a feedback loop.

Means of Transmission—Space or the physical substance (air, wire, ink on paper, optical fiber) that provides a pathway to send encoded information through a decoder and to the receiver

Organization of Information to be Displayed--for the purposes of this paper, placement in a Word document in a serial fashion, in parallel columns, inclusion of videos, PowerPoint presentations, synchronization of live action and dialogue with projection.

Prior Media--major means of communication of information such as by body movement (gesturing, shamanism, tribal dancing), body decoration (makeup, painting, tattooing), making sounds, speech, depiction, sculpture, decoration, writing, print, telegraphy, telephone, radio, television.

Production Cues--instructions as to how to control lighting, sound, entry and exiting of actors, general and complicated movements or patterns or stage settings (with notes), curtain and flying props, projection, and end of a theatrical piece.

Productivity Gains--gains in the amount of information communicated in the same unit of time; cost savings per unit of work or money; increase in amount of product per unit of work; a combination of motivation, efficiency and effectiveness measures.

"Major" Media--might be those that result in the greatest cultural change.

Multi-Channel—Two or more channels available to transmit different information on each channel.

Multiplexing—The ability to encode, transmit and decode multi-channel information via one channel.

Medium of Communication--In the communication process, a medium is a channel or system of communication—the means by which information (the message) is transmitted between a speaker or writer (the sender) and an audience (the receiver). The plural form is media.

Productivity—When considering Viewability, a composite of Effectiveness, Efficiency and Motivation.

a. Efficiency is the time rate of accomplishing a task
b. Effectiveness is the degree of completeness, quality or desirability of the task completion results
c. Motivation is the degree to which a human is led to want to accomplish the task

System—A bounded set of elements working together to accomplish some process with inputs, outputs and a feedback loop.

System Boundary--a gradient of a field; a crossover point from relatively unorganized ideas to those representing more organized (less entropic) networked process elements acting purposely to transform inputs to outputs; the limit of ideas under consideration.

Validation--a technical term in assessing experimental results related to the percent of independent variable observations attributable to random error ($p \leq 0.1$ is considered acceptable).

Viewability—A construct in the field of display that satisfies three conditions:

1. All information needed to accomplish a task is in the field, such as a Microsoft Window
2. No other (distracting) information is in it
3. The necessary information is viewable long enough to accomplish the desired task.

Research reveals that these conditions are almost all present when productivity is desired.

New Material Not In the Abstract

In writing this paper, I found and originated new material appropriate for inclusion not covered by the abstract. My field is Information Science; it includes Management Information Systems and Information Technology that deal with collecting, sending, storing and receiving of information—in particular, to help businesses. Please see the subsection "**A Model for Human Communication"** below—my own model for the communication process. I found it convenient

to include subsections "**Isomorphic Systems,"** and **"Typical Dramatic (Theatre) Production Cycle,"** in the "**SYSTEMS**" section. The subsection "**Cultural Considerations**" proved useful in understanding difficulties encountered in introducing the new medium.

The incident that prompted this paper mentioned in the abstract occurred in Malibu Bluffs Park in Malibu, CA, USA in a holiday observance.

Human Communication

Visual display (shortened to "display") is one form of human communication as is spoken language or speech. Actors in a performance use dialogue (speech) and other sounds (already multiple channels), and body language (including action or movement—another channel) to send script information to an audience. Other channels may be sound effects, music, singing, lighting, makeup, costuming, props, sets, and unmasking of technical equipment to send information in parallel through many channels simultaneously over separate means of transmission or multiplexed over one. In effect, the theatre production multiplexes multi-channel transmission of information—called the "message." Projecting a script with embedded multi-media as well as dialogue, action, (optional) production cues and stage direction is another way of multiplexing information delivery. More will be treated on this subject in a future paper.

Because both theatre and individual, general speaker presentations--such as preaching, presenting at conferences, in teaching—are human communication, it is appropriate to make the following points at this time.

The following is taken from the ScienceDirect website:[iv] "Human communication is both social and cognitive because it is a process by which individuals exchange information and influence one another through a common system of symbols and signs. **Human** language is **unique** in comparison to other forms of **communication**, such as those used by non-**human** animals. ... **Human** language is open-ended, meaning that it allows **humans** to produce an infinite set of utterances from a finite set of elements.

During acts of communication, signalers draw their recipients' attention to what they consider relevant entities, both real and imagined." Signaling is a part of feedback/control.

The following discussion is found in the ScienceMag website:[v]

"The researchers conclude that the successful spread of even the earliest known toolmaking technology, more than 2 million years ago, would have required the capacity for teaching, and probably also the beginnings of spoken language—what the researchers call protolanguage. (Many researchers think that gestural communication was the prelude to spoken language, which might explain its effectiveness in these experiments.) "The ability to rapidly share the skill to make Oldowan tools would have brought fitness benefits" to early humans, Morgan says, such as greater efficiency in butchering animals; and then Darwinian natural selection would have acted to gradually improve primitive language abilities, eventually leading from protolanguage to the full-blown, semantically complex languages [that] we speak today"

Communication may involve all of the senses. Communication media involve visual display such as smoke signaling, semaphores, print, electronically and digitally produced images--perhaps any visual means of communication. Communication using sound includes speech, proto language, Morse code, music and sound effects. Communication may be by touch (Braille), indirect touching using some object (poking with a baton). A police officer may test for cocaine by tasting. One may test for marijuana is by smelling.

MEDIA CONSIDERATIONS

The next subsection will help establish a vocabulary regarding communication and media discussions.

A Model for Human Communication

If people wish to pass information to each other, they must follow a process called communication. Communication requires the following elements (this list is representative, not exhaustive):

1. There is a party/device wishing to communicate information—the sender or signaler.
2. There is a party/device that can and does receive the information to be communicated—the receiver
3. The information must be encoded for transmission—the encoded product and means of transmission are commonly thought of as "the medium," but to be precise, the travel path of the information will be called "means of transmission). Examples of encoding are:
    a. Pantomime-commonly understood body movements
    b. Voice-grunts, language (acoustic)
    c. Art-reproduction of real or imagined visualizations
    d. Handwriting-letters or cursive script (or code)
    e. Print-character/images formed by mechanical/electromechanical or electronic/digital means to or from storage, code or digital telegraphy, analog/digital telephony, digital teletype
    f. Processing for electromagnetic transmission
4. A means of transmission
    a. Direct transfer of ink or pigment to various surfaces
    b. By sound through air
    c. Visually through air or space
    d. Chiseling in stone
    e. Drawn/painted/written/engraved/screened/stored on cave walls, clay, wood, papyrus, paper, parchment, canvas, metal, a variety of materials, punching paper tape, magnetized wire, tape, cassettes, floppy disks, hard drives, "written" to permanent/erasable/temporary electronic memory, core, memory chips, electronic pallets, quantum memory, a hologram …
5. Feedback to establish that the information is received, is correct, and is understood—including the intent.

Regarding 4., the receiver must be at, or come to, the place/object/device where upon or in which the information was prepared for transmission. It must be carried to him/her/it, or the information must be sent though the air/space/wires/optical fiber, Internet, satellites, etc.

Regarding 5., ancient forms of communication worked for the people of the times but the meaning may have been lost, so they might not be validated now. Is it wrong to include this element in such a case? The feedback may be a nod, correction by Manchester code, the hand shaking of the Internet, asking "Is this what you mean," etc.

Obviously, with the knowledge explosion and recent, rapid development of technology, all of the possible permutations of the elements above are resulting in a similar explosion of communication processes. With increased choice comes increased complexity.

A Brief History of Media

In this section, "media" is used loosely to mean means of transmission of data, such as a wire. By inspection of this and the following sub-subsections, it should be apparent that print and digital communication media are relatively numerous and that many media subsume prior media.

Perhaps humanoid communication began with meaningful gestures and grunts—almost pantomime plus non-language sounds.[vi] Tribal cultures developed and shamanism may have been an early precursor of theatre. Tribal dances not only use a form of pantomime, but also include music. The human species uniquely developed natural languages and the greatest immediate communication distance was shouting up to 100 meters.[vii] The medium was air that carried sound. The history of communication is mankind's search for ways to improve upon shouting. Language must have been present to teach tool-making that began at least 2.6 million years ago.[viii] A more practical alternative to shouting is to run with the message. The marathon was named after such a run. The Incas used runners. However, the game of Chinese whispers illustrates the unreliability of oral couriers.

Osama Bin Laden was safe in hiding until his courier was tracked down. The medium was human carried writing.

A form of sculpture—bas relief—is seen on the pillars at Göbekli Tepe Temple (Buckner, 2018) in Turkey and is 12,000 years old. It may attempt to communicate across time but is ineffective across large distances or space. The medium is stone.

The Sumerians wrote in clay that dried or was baked, 6,000 years ago, and the Egyptians wrote on papyrus. Chinese characters, from 3,600 years ago, are profoundly ill-suited to such labor-saving innovations as printing, typewriting or word-processing. They have survived because they allow communication across languages such as Japanese. Phonetic scripts developed a century later that can liberate writing from the status of an arcane skill, requiring years of study to learn large numbers of characters. They make possible a literate community. The first tentative steps in this direction were taken in the second millennium BC in the trading communities of Phoenicia.

Figure 1. Phoenician Writing

Phoenician is a Semitic language and the new approach to writing is adopted by the various Semitic groups in Phoenicia and Palestine. Versions of it are used, for example, for Aramaic and Hebrew—and current Arabic. Only the consonants are written, leaving the vowels to be understood by the reader. The Greeks added vowels 2,800 years ago and in the first few centuries C.E. Christians produced leather bound books with papyrus leaves written in Coptic (Egyptian Greek).[ix]

Art media have progressed from French cave paintings to virtual studio APPs.[x] The oldest French cave paintings discovered in the 1990's are in the Chauvet-Pont-d'Arc Cave--thought to be up to 37,000 years old; before their discovery, the Lascaux paintings were widely known.

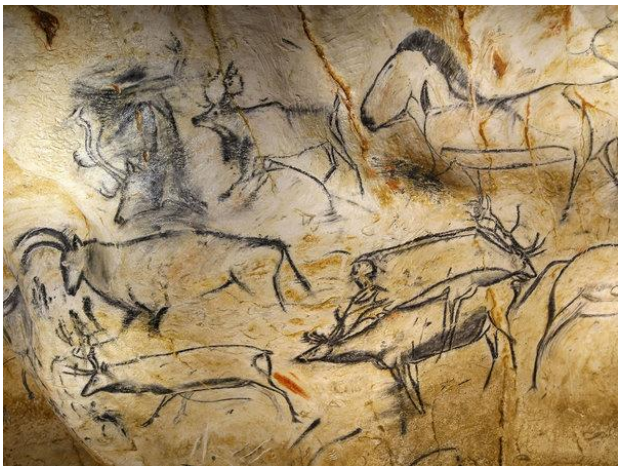

Figure 2. Grotte de Lascaux[xi]

Woodblock printing dates to CE 200.[xii] Lithographs use inked treated stones with paper media (1798);[xiii] screening uses ink on a number of media (invented 1911).[xiv] When Christian monks in Western Europe write out their holy texts (last 2 millennia), they do so in Latin on parchment. After 1501, with engraving (on a medium such as copper sheets), the italic script flourished.

Western theatre was originated by the Greeks about 500 BC and Alexander the Great took it to India from whence it influenced China, but it is thought that Indian Sanskrit theatre pre-dated that. One of the great Indian national treasures is the *Mahābhāṣya* (Patañjali, 1987-1988).

In the 1450's printing developed as an early mechanical device --inking paper as a means of transmission.

Electromechinal devices in the 19th century include the telegraph (wire media), the stock ticker (paper tape media at the receiving end) and typewriter (and electric typewriter) with paper media. The electrical telephone uses wire. The media of radio and TV is back to the air (and space). Mechanical sound recording started with grooves on foil around 1880.

Later came electronically recorded Bakelite types of disks, vinyl disks, reel tape, cassettes, floppy disks of various sizes, CD's and thumb drives.

Photography may be a form of art. The first photographic images were on a thin layer of asphalt on metal. Silver emulsions on glass produced much better negatives and both they and later film negatives were almost permanent visual records that could be printed in quantity on special paper and developed chemically. Movies are a special form of photography, as were film strips (that could contain images as well as text, and could be synchronized with sound recordings), microfiche, TV and videos.

Digital devices include the teletype (paper tape and wire media) and the word processor with multiple media such as monitors, chip memories, hard drives, floppy drives of a number of sizes, tape and cassettes, phone wires and the Internet—even satellite. We are in the digital age; it is time that media appropriate for it (but not necessarily abandoning print) be developed and used.

New Media Subsuming Older Media

Col. John R. Boyd's only publication[xv] is a nine page essay on how new devices may be created. It also serves as an analogy of how new ideas may be created. If a new idea of how the elements of communication may be put together constitutes a new medium, then one may have a good start on creating a new medium by considering old media and then adding new elements to a selection of old media elements. This is what is meant by subsumation. For example:

Pre-Human (Humanoid) communication may have used encoding of sound as grunts and visual signal body gestures (pointing, facial expressions). The transmission medium was air for the grunts and light (reflected off of the sender body or bodies). The receiver was another body or group of bodies. The process may have been repeated or varied until the intent was confirmed (feedback, handshaking)

Art encodes an idea, an image or a scene in pigment upon a fixed or movable substrate. Usually there is a single sender who selects the information to be encoded such as with paint, charcoal drawing, sculpting or engraving. The means of transmission is the framed or unframed "picture," a sculpture, or other object commonly thought of as "the art piece." The meaning and intent of the art may be specific, known and directed to a specific recipient--or personal, abstract, impressionistic, etc. and directed to a general public.

Natural language encodes sounds in very specific ways: tone, volume and speed helped establish meaning and intent. If the sender and receiver were close enough and there were enough light, facial expression may have augmented transmission and feedback.

Writing encoded natural language in the form of characters and the sending is typically by a person or team of people (such as the postal service). The means of transmission may be by clay, papyrus, paper, etc. Early writing included hieroglyphs painted on walls or chiseled into stone that represented objects and came close to art. Using inked quills, pens, and pencils speeded up the encoding process. The recipient might be an individual or a group. Writing solved the maximum transmittable distance problem of shouting and made the encoding semi-permanent, as did art. Quick transmission over a distance was achieved by courier, runner, pony express, telegraph, telephone, pneumatic tubes, air express, etc. R.S.V.P. is an example of feedback.

Modern printing began when the author-sender encoded by setting wood or metal type by hand or by electromechanical typesetting. Printing may include images using dot matrix lead castings or offset plates. Transmission is commonly by paper carried, delivered or placed in a library for temporary storage until read there or checked out. Offset printing uses chemically treated (encoded) metal plates that transfer ink to paper.

The telephone commonly has one sender and one receiver; phones encode talking into a mouthpiece and the intensity of electrical current is varied in a wire (means of transmission) according to the voice sound waves. There may be feedback by voice “hand shaking” or reply to a recorded message. Digital devices may be senders and receivers. Remote surgery may be done over telephone wires, or more probably, the Internet.

A photographer commonly encodes visual images on silver emulsions on film. Prints transmit the images as by courier, through the mail; they last not indefinitely but a long time. If negatives are still in good shape, they can be reprinted. Electronic analogue raster scan encoding made TV possible for instantaneous viewing over long distances through air and cable, and digital encoding makes cameras possible with resolution approaching that of analog film. HDTV displays digital images that are clearer and brighter, but are not as cool as analog TV, and are a different medium. The receivers are quite general, numerous and distant. The wide field camera on the Hubble telescope digitally encodes both infrared and visible light images.

Electromechanical media may use a human sender such as with a telegraph; a stock ticker may be a receiver that encodes electrical pulses into printing on a paper tape. The transmission is by wire. Mechanical and electromechanical typewriters encode writing for printing, storage or transmission, and electronic/digital word processors do the same with easier and faster error correction (self-feedback). The teletype has a typewriter keyboard (as does a word processor) and uses a wire for transmission, or uses punched tape (both for storage and transmission). The word processor may store on a variety of means that of themselves may be a means of transmission. These devices may have no feedback except a reply. Images are not typically part of the information content. Word has a large number of fonts, point sizes, colors (background and font) and font formatting not available on typewriters, and an attempt to utilize these resources is deliberately made in EDDSWEMM.

Television senders are groups of people, and electronic (now HD digital) devices electronically encode images and sound for electromagnetic, cable and fiber optic transmission to single receivers or groups. After message decoding by analog or HD television sets, the receivers are

people. The content is almost inexhaustible, but it consists mostly of commercials. It is an extension of radio, including images. Both are regulated—a form of feedback; another form is polling.

The Internet senders subsume all of the above, and so it is with receivers. Encoding is through a network with information broken into pieces that may travel through different network paths, with electronic error correction upon reassembly. The paths may include a number of transmission types. Intent and content subsume almost all of the above. It is fast and not distance limited, does not require air or daylight, and rarely requires human intervention. A common use is email that is like letter writing, as are social media.

Drama, or theatre, may include the playwright as sender (or inputter to a system). Output is through the actors to the receiver audience. Encoding is by voice and body movement, so even though it originated with the Greeks 2,500 years ago, it harkens back to humanoid communication and tribal dancing. Visual encoding is by makeup, sets, props and costumes. Feedback is by critics and audience interest and word of mouth. Script format standards (in typewriter format) and standards of decency act as set points. My research involves how the theatre system changes with projection of an EDDSWEMM script, and what system diagrams of theatre before and with the new medium may look like, and how culture changes interact with new media. Lighting, props, sets, costumes, sound equipment, directors, designers, producers the technical crew and control booth all contribute to a production.

A generalized presentation (such as by a teacher, church leader, presenter of a paper, public speaker, politician or small group of people—the sender) in a live setting may use voice and body language to encode and may use visual aids, video showings, lighting, sound recordings, large screen digital displays, and live music as a variety of means to encode information transmitted to a group of people—the recipients. The electrical/electronic/digital encoding may be by a variety of means. The means of transmission from the speaker are sound and sight—with possible printed handouts. Control (replacing set point manipulation and some feedback) may be with sound booth technicians and/or a hand held remote clicker. The consonance of very primitive communication techniques with modern electric/electronic/digital devices to encode and transmit information—largely controlled by humans subject to distraction and errors--is a perfect storm for problems and degradation of quality.

The discussion in this section suggests that new media often are comprised of many elements of older media, and that it is therefore not surprising or novel for a new idea of a medium composition to build on elements of old media, with the addition of other elements that may be just slight changes to old elements--subsumation.

For the purposes of this paper, a medium may be comprised of many—if not all—of the above elements. An idea of a particular composition is equivalent to a particular medium, as illustrated by the previous section. This suggests using a systems diagram or model for a medium. Is it a medium if it is not in use?

USING EDDSWEMM TO ORGANIZE AND CONTROL MEDIA DISPLAY

The field of Information Science is intended to help business, to store and process information, in a cost-effective way. Off the shelf, commonly available applications (APPs) are recommended because of the high cost of developing custom software. Word in the MS Office suite is an APP that does word processing; also available in the suite is PowerPoint for slide shows, Excel for spread sheets, OneNote, Picture Manager, and some utilities. Word and Power Point afford the ability to embed links to Internet web pages, music and image files, videos, applications outside of Office such as executable programs and sound effects in text. Using selection and moving and/or cut and paste, it is easy to organize multi-media presentations.

Control is by scrolling, CTRL+clicking URL links or double clicking icons. When scrolling without page boundaries, it is easy to make insertions, deletions and editing changes because continuation messages, widows and orphans need not be treated. All of the "script" formatting resources of Word are available to make colorful presentations. Testing of a presentation before presenting it ensures that display is smooth and error free, timing information may be observed during testing and content may be adjusted according to requirements.

One criticism of this technique is that large files result. For example, a three act (2 hour) play that I have written with much embedded music, sound effects and images, requires 190 MB and must be sent over the Internet with MS One Drive. Using DropBox disables some capabilities. A subject for further research is using a Systemics approach and other available APPs. Physical transfers may be made by relatively inexpensive thumb drives and inexpensive data CD's.

Scripts in the new medium may be projected in parallel with conventional stage performances to augment theatre and live speaker presentations. Viewing it on a computer monitor constitutes a new literary genre.

New Formant and Content

Script format for theatre has been controlled by the standards of the Dramatist's Guild as referenced earlier (Buckner, 2018). Projecting the new medium is facilitated by a new format as suggested by last year's presentation (Buckner, 2018). It was chosen to be more ergonomic--contributing to efficiency and aesthetics. New content utilizes color, different fonts, italics, highlighting (bold and color) to mean something. Color and images are not included in the standard format. If a play is a musical, instead of embedding lyrics and scores in a script, a recording of or link to music itself may be embedded--shortening the readable script at the expense of file size. Optionally, lyrics and translations may also be included. Presentation time, including sound track times, may be partially known from time lengths in production cues in which the sound icons or links are included. The sound links themselves may be new content--such as links to Youtube music videos.

The new format is intended to be freeing, not limiting. Formatting for uses other than the theatre is the option of authors. The author may make up cues in the script meaningful to him/her instead of having to read a script digitally displayed on a large monitor or projected on a screen. A novel cue could be a recorded phrase such as "note so and so" or "Next topic: so and so" to avoid having to read the displayed script to figure out what to speak or present next.

Heightening Audience Central Nervous System Activity

When analog TV sets became numerous, Marshal McLuhan named their effect on the Central Nervous System (CNS) "Cool" (McLuhan, 1964) because the viewer brain interpolates between the raster scan lines to make a complete picture. Color TV expands this activity to interpolate between the colored dots. The more "excited" brain gives the viewer a stronger or more intense experience. Viewing TV was "cool," and that is lost with the new medium, HDTV.

Toward generalization, in a presentation by one or more human presenters although not framed by any particular means except the pupils of the audience eyes, the view of the presenter(s) may be considered one window, and one or more digital projections another or others. Not only does the new medium increase Viewability (the digital display window(s) may increase the amount of information being conveyed to the audience), that increase is in parallel with whatever information is being given orally by the presenter. This is both a way of increasing the efficiency element of productivity (amount of information delivered per unit of time), and it also excites audience CNSs more than just listening to and viewing the presenter. This is the motivation or "wow" factor of productivity. The information digitally displayed remains on the screen as long as the presenter has planned--one of the three factors in Viewability (Buckner, 1992). The additional information displayed increases the effectiveness factor of productivity.[xvi] The speaker is less distracted by having to control the digital display (as by a clicker)[xvii] because the projectionist scrolls the digital display and "plays" the embedded media. A student or young worker may be employed to prepare the script at the direction of the presenter. The presenter may rehearse the script until he has the performance down pat. There is no free lunch; increased productivity and Viewability and decreased errors and distraction are at the expense of more preparation and use of more resources. This is true in digital display theatre performance augmentation because the actors must be rehearsed with the projected script to synchronize the stage performance with it.

The presentation will be more cool.

A parallel may be drawn with play script distribution; the script of a general presentation may include the "text" of the speech or words spoken by the presenter and the other elements of the digital display that may be sent to others to enjoy like a literary genre of a play, at an individual's leisure. If the whole multi-window presentation is videoed, the video may be distributed.

The presentation will be inclusive of the deaf.

Opening digital displays in addition to live presentations is analogous to opening multiple Windows instead of one, increasing complexity (Buckner, 1992, 2018), but, if increased audience CNS stimulation and information delivery are the goals, it is worth it.

Augmenting Theatre

Augmenting theatre with the new system is a step toward the generality of augmenting all live speaking performances with it.

As described last year (Buckner, 2018), EDDSWEMM may be used to augment the contemporary, traditional theatre described above. The new medium has a new format (better for projection, is more ergonomic, is paperless), and that invites new content (different ideas of the playwright). This may include sound effects, (optional) production cues, asides, images (still and moving), information from other MS Office APPSs foreign language dialogue or lyrics with English translation, executable programs, videos or links to videos, embedded music instead of scores and lyrics, line numbers or other mileposts instead of page numbers, use of non-typewriter based resources (color, fonts, bold, etc.) of Word, and others imagined by playwrights and directors.

Organization in Dramatic Scripts
The same kind of script text as in traditional scripts is the skeletal structure of the new medium.

The additional elements represented above are placed in context to augment that script--the basic organizational principle of the new medium used to augment traditional theatre.

Control in Dramatic Scripts
The above organization prompts the projectionist to follow the stage presentation, and vice versa (in that actors might have to wait for asides to be read, music to complete, etc). Sound may be "played" by the projectionist without reference to separate sound cue lists. The script may contain lighting cues for separate technical crew members. In the future, lighting might also be controlled from the script by insertion of executable files that interface with digital lighting systems. Performance length may depend very much on the combined lengths of all embedded background music. Length may not be accurately estimated by number of pages (there are none) but, partially by number of lines. I have used table readings with professional actors to accurately time lengths.

Costs of Enhancing Production
A traditional theatre production budget is typically estimated by actor and crew fees, designer fees, performance length (rehearsal length is usually nine times page length in minutes), venue fees, printing costs, director fees, etc. An augmented production provides increased Viewability; it is deaf inclusive. It delivers more information in the same unit of time. But it requires more preparation--a table reading as noted above, an extra technical rehearsal, increased playwright effort for which he/she may wish to be compensated, perhaps more music licensing fees, increased difficulty in communicating large files and resistance to change in the theatre industry (except for actors).

There is a trade-off between these costs and the benefits of providing viewability and audience CNS stimulation. The projectionist may eliminate the sound technician (and to some degree, the stage manager), but he/she may need more training and experience. The increase in technical rehearsals may help him/her. Some venues might not have a projection screen. However, embedded images might reduce the need for set design and construction (using suggestion to the audience). Maybe the need for musicians (including singers) might be reduced. However, there are no paper script and reprint costs, and changes to the script do not require repagination and reprinting. Widow and orphan problems and the need for continuation lines at the tops of some

pages disappear. Sides can be simply extracts from the script and actors would have the benefit of all of the sound as it will be "played." Blocking could be facilitated by the production cues, (including notes), stage direction, and action written by the playwright. Rail production cues, and the same things that aid blocking, help the stage crew and manager. A director must be willing to be challenged to take on something new, take some inputs from the playwright and share some of the pay and glory with him/her; critics and audiences may have to be changed by enculturation. Oh me, oh my.

SYSTEMS

Systems may be Isomorphic (do not change in form, function or results) and Non-Isomorphic.

Isomorphic Systems

An example of an Isomorphic System is a Heating, Ventilation and Cooling (HVAC) system. It has a feedback loop that measures output and compares it to a set point (for example, 72 degrees Fahrenheit) and influences internal processes in the system to adjust output according to the set point. The result is maintaining an even temperature range.

Theatre Production as an Isomorphic System

The next subsection suggests that theatre production is a complex system of systems that interact with each other. Generally, its input is a play script in a rigidly controlled format, the set point. Length and content vary widely, but one or more actors take the stage and use speech (human language including proto-language grunts--both subsumed), body language and action (display--subsumed from the age of proto-language) to present the script. Length may be a set point for 10 minute, one act and full performance plays, and decency ratings may be set points for content. Actor contributions may be augmented by sound effects and music, including songs with lyrics (language and music are subsumed). Makeup subsumes body art. Costuming is a form of display. Sets subsume art. Lighting is a system used to enhance emotional impact, the appearance of the actors and demarcation of scene ends. Casting and rehearsals are systems designed to assure actor ability and suitability, and an error free performance. Producers use a system to finance the production. Press releases, tickets and programs use printing systems. Reservation systems hold seats. More systems could be noted. These systems interact within the overall system boundary. Output is entertainment-storytelling.

Dramatic (Theatre) Production Cycle <u>With an Augmented Script</u>

Before discussing the figure below, consider a theatre production cycle (abstracted in the blue box with arbitrary nodes and network paths that have no exact relation to this cycle). The red bullet points denote possible cost increases and the green ones productivity increases or other benefits when the performance is augmented using the new medium. Underlining denotes steps necessitated by augmenting the production with the new medium.

- A playwright writes a play script (typically oriented toward a typed paper page format).
    - Title page and cast of characters are unnumbered and controlled by the format standard.

- End matter may provide character back stories and other helpful information.
- Using the standard format, widows and orphans must be addressed, pages must be numbered, continuation information must be added at the tops of pages starting with run overs of action and dialogue, and, on average, one page takes about a minute to perform.
- Mile posts to places in the script are page numbers.
- Insertions and/or deletions may require repagination and reprinting.
- Using the new medium intended for projection, multimedia, suggested production cues, some blocking other stage direction, background and accompaniment music, still and moving images, sound effects, slide shows and other multimedia may be embedded in the digital script. URLs may be included to web page content and videos on the Internet. Other APPs and executable programs may be included. This increases the file size of a digital script.
- Using the new medium, there are no page boundaries, insertions and deletions require no repagination, there are no widows and orphans, and top of page continuations are not required.
- Mileposts in the script may be arbitrary page number images correlated to a paper script at some time in the writing process, or line numbers. There are problems with line numbering in some cases.
- Projection suggests a new format amenable to projection screen or large digital display sizes.

- Sides and scripts must be printed
- A producer and/or theatre artistic director accepts the script.
  - The venue, date and time of one or more performances is determined.
  - A press release is prepared and distributed.
  - Budget details are worked out.
  - A theatre poster is prepared.
  - Licensing is obtained.
- The performance is marketed.

- Tickets are printed.
- Permits are obtained.
- Security may be hired.
- A director is selected who may recruit actors or use a casting director or agency.
    - Typically any end matter and stage direction is discarded; some action may be changed, added or deleted (the playwright is left out of the box).
    - The director gets familiar with the script.
- A Casting Call is issued to recruit actors and, if the play is a musical, musicians.
    - Actors submit head shots, resumes and possibly demo tapes.
    - Actors are provided with sides (excerpts of the play script) to perform at auditions
    - There may be call backs.
    - Final casting is done.
    - Actors are provided with the full script. Using the new media, this may be facilitated using CD's, DVD's, thumb drives.
- Programs are printed.
- Seats are selected and reserved.
- Tickets are purchased.
- Lighting, set, and costume designers design and build or purchase/rent non-human elements of the stage production.
- At the venue or another rehearsal space, rehearsals are constructed, typically nine hours for every performance hour.
    - Using the new medium, additional rehearsal time may be used for synchronizing action and dialogue with the projected script.
    - Using the new medium, the playwright may coordinate with the director, especially regarding atypical material in the script.
- A technical rehearsal is conducted (typically 1 day with all cast, designers and crew present to walk through their parts).

- Using the new medium, there may be one or more additional tech rehearsals.

- A dress rehearsal is performed like a real performance except without a paying audience.
- Projection requires a projectionist with the skills to initiate operation and/or display of embedded objects.
- A sound technician may not be needed.
- One or more performances are conducted.
  - With one or more poor gates, remaining performances may be cancelled.
  - The performance may be augmented with EDDSWEMM.
- If appropriate, the post production script (typically with staging and production cues) is prepared and printed (or e-booked) and distributed for sale.
  - The performance may be videotaped.
  - After the last performance, load out is performed,
  - There may be a cast party.

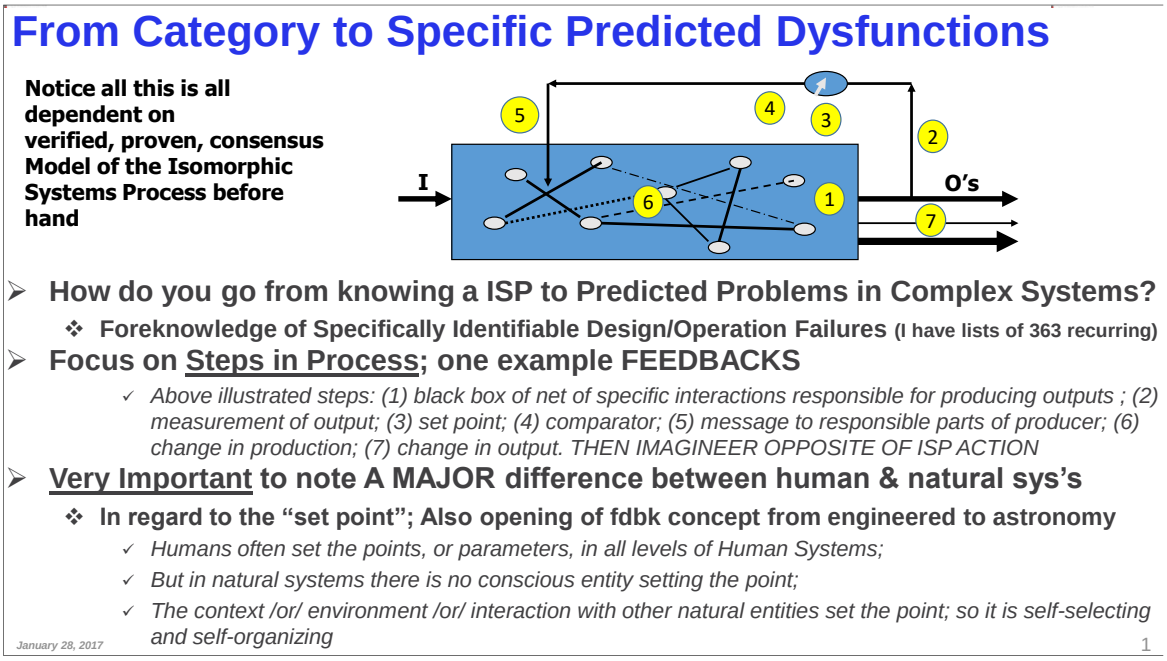

Figure 3. Slide Depicting Isomorphic Systems Process in Discussion of Predicting System Dysfunctions

Figure 3, above, is a slide depicting an Isomorphic Systems Process model with an adjustable set point in a feedback loop on predicting dysfunction causation in complex systems.[xviii] Isomorphic means that the form (and results) of the system does not change. Information from the diagram is repeated below.

The process has inputs, **I.** The black (blue) box (1, depicted in blue), represents a net of specific interactions responsible for producing outputs, **O**; 1 has a boundary—the perimeter of the box. A feedback loop begins with 2—measurement of output. It continues through the set point, 3, used in "regulating" production of O. A comparator, 4, in the feedback loop, detects deviations from the set point, and if any are detected, a message, 5, is sent to responsible parts of the producer. The dashed line (and dotted line?), 6, represent(s?) some change in production, effecting a change output, 7. I use this model as a system diagram for my purposes.

As a system diagram it amenable to describing isometric dramatic (theatre) production if the inputs, production process, set points and outputs are not "significantly" altered. Note, as stated in the figure, that there are major differences between Human and Natural systems. Theatre production is a Human System and is visualized in a hybrid set-system diagram in a previous paper (Buckner, 2018). As noted in the figure:

- Humans often set the points, or parameters.
- In Natural Systems there is no conscious entity setting the point.
- The context/environment/interaction with other entities set the point in Natural Systems—therefore it is self -selecting and self-organizing.

Theatre Production System Diagram (With Set Point Value In Negotiation)

The diagram below is my Isomorphic Systems diagram modified to show standards for script format in negotiation between Playwright(s), **P**, who providing inputs, **I,** and the Dramatists Guild that sets format standards, 3. The I is a playwright authored play script. The O is to an audience, **A***; the asterisk means that the audience includes paying customers, A, critics, standards personnel and literary readers.

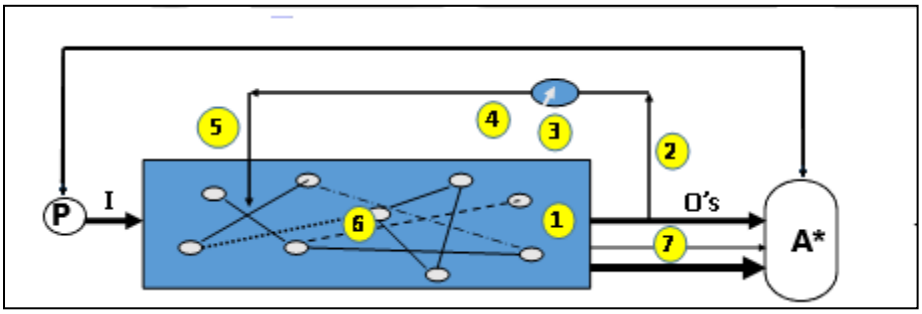

Figure 4. Non-Isomorphic Theatre Production Process System

The input changes when the play script is written in the EDDSWEMM medium--a paperless, digital script with embedded multi-media written in a new format for projection. (It may also be displayed on a computer monitor as a new literary genre.) The lower output is the contemporary staging, but the upper is the simultaneous, parallel projection of the script scrolled to synchronize with the dialogue and action on the stage. The feedback loop acts as with the isomorphic process of Fig. 3, and the standards personnel detect that the format has changed; this may create dysfunction in the production process creating 7. until they get used to the new medium augmenting the contemporary play production process. Critics may produce feedback by resisting or slamming a production augmented by the new medium. The usual audience provides it by booing, leaving early, not coming back and withholding applause. An artistic director or producer may refuse the script. To date, after 13 plays have been produced, professionally stage read, and professionally table read, no actor has complained. A new, two-way feedback loop, the upper black line, indicates attempts by the standards personnel to bring the format back to their original set point and negotiations (education) by the playwright to obtain waivers or a supplemental standard.[xix] Audiences have become used to storylines, clear and simple plays, and reduced need for attentiveness. If negotiations are successful, this new two-way feedback line goes away and the diagram again becomes isomorphic to theatre production.

The above discussion is an over simplification of what is going on, but is useful for understanding from a systems perspective. There is great resistance to changing the format although the format for dual dialogue and action is left up to the playwright. Embedding music solves the problem of having to include score and lyrics in a musical script to follow the standard. I have a prospect for putting on a play in the new medium in the San Francisco Bay area this fall with an Artistic Director who is not a member of the Dramatists Guild. Many young playwrights are experimenting with using MS Word instead of an APP such as Final Draft. Projection is being used more and more (Buckner, 2018). We are in the digital age and less and less information is communicated in the typewritten paper format.

In the event that the new medium and its format and greatly expanded content (Buckner, 2018) are accepted, it is interesting that the playwright might then be considered inside the system boundary. Then, he/she has more power, and provides more inputs such as production cues, music, and mages that suggest props. His/her inputs are ideas, imagination and life experiences. The audience changes to include the deaf, but also to accept and even yearn for the increased CNS stimulation. The production process changes to have more technical rehearsals to synchronize staging with the projected script. The fact of all of these changes--inputs, outputs, standards (set point), the playwright an paid audience, A, being included more in the production process, the process itself changing, and changes in the audience make the resulting medium (system) new.

A different audience might be required for success of the new medium, or present audiences might eventually come to appreciate it. Characteristics of an appreciative audience might include:

- A curious, adventurous desire for something new
- Appreciation of more emotional content

- Desire for a cooler experience (involving the challenge of more CNS stimulation and activity)

- An appreciation of more development of characters by additional information in the projected script

- Appreciation of their minds being used as a screen for projection of the augmented performance.

The last bullet suggests that the audience appreciative of the new medium becomes a part of the system. This notion raises the interesting questions of what the inputs and outputs are if **P** and **A** are in the system. For **P**, it could be ideas, researching literature, and life experiences. For **A** it could be intellectual and emotional satisfaction, greater enjoyment of extra CNS stimulation, and appreciation of greater play content.

The new medium affords greater Viewability and greater Productivity at performance at the expense of more up front preparation by the playwright (much of which might be accomplished by student assistants or entry level personnel in the theater profession). The playwright might receive more financial compensation for his/her work and satisfaction in contributing more to the production. Typically, directors rip off any front or end matter (with character backstories, etc.) besides the title page and cast of characters, and build the production around dialogue only. The best example of this is Shakespeare productions because the Upstart Crow wrote only dialogue. Producers and Artistic Directors might balk at greater script royalties, but actors would benefit from more pay for extra technical rehearsals, as would the technical and stage crews. As predicted (McLuhan, 1967), there would be more group participation and cooperation (democracy) and less stardom, fame and emphasis on the esteem of authorship. The new medium requires more of a projectionist and less of sound technical crew members. Lighting is suggested in some of my plays—lightening the load of the lighting designer. Images may replace, by suggestion, or augment props and scenery, changing the role of set designers. There may be resistance to the new medium but some of these personnel may appreciate the freedoms, variety, and ease that it affords to their jobs. But with the world being the way it is now, what it might need is new medium, sweet new medium.

Ideas as Inputs to the Play Script

If the system boundary is moved to include the playwright (and the audience), what is the input to the system? Media theory for the electric/electronic/digital age is that storytelling loses some of its importance and the importance of ideas increases as does emotion (Buckner, 2018 and McLuhan, 1967). So why not broaden the input to the play script, through the playwright, to include many ideas other than a story? Even a story may be considered to be the result of stringing together a number of ideas from a beginning to a desired ending one. Why not let a dramatic production establish a mood, depict emotion surrounding an "aha" experience such as having an insight surrounding overcoming childhood trauma? Why can't it just depict something beautiful?

A future paper could treat a play script architecture based upon ideas as suggested by the following tentative abstract:

> "The metaphor of theatre rooms as applied to building architecture can be traced back to pre American revolutionary days and reversed to be a foundation of an interdisciplinary play script writing architecture. Generally, there is one scene per room and rooms can be reused for similar scenes. Furnishings in rooms hold multiple copies of different major ideas per furnishing, and trays of minor ideas from a cafeteria, to be assigned to cast members for dramatization in scenes. Scene changes are effected by changes in the furniture and trays (changing the ideas to be dramatized)."

APPLICATION OF THE NEW MEDIUM TO GENERALIZED PRESENTATIONS

"Presentations" is used in this paper to connote message delivery, by voice and body language, by at least one human speaker. In the digital age of today, many speakers augment such presentations with PowerPoint, videos, slide shows, lighting, music, showing of Internet videos and web pages, graphics, and still images (maybe even more). Those may all be embedded in EDDSWEMM. The new projected medium subsumes the media already used in plays and generalized presentations, and adds the script text. Except for lighting, it reduces the cost and complexity of the technical equipment required.

Organization in a "script" for general presentation may be a little more difficult and take more time because there is no fixed order for general presentations. But reorganization, editing and changes are easy with MS Word. The speaker may find it convenient to use a computer-savvy assistant, but usually there is already someone like that in a control booth.

Control will be easier for the speaker in a general presentation because there are only two actions: scrolling the script down and CTRL+clicking links or double clicking icons. Media players and Internet pages may be pre-cued up for almost instantaneous access.

The costs of preparation follow those in dramatic productions, except the speaker would substitute for the playwright. A speechwriter might be used. The productivity gains would also follow with saving the use of a sound technician, printing and change of script costs, ease of distributing to proof readers and those in an editing approval loop, and lack of need to print.

DIFFICULTIES TO OVERCOME WITH THE NEW MEDIUM TO OVERCOME

Some difficulties with using the new medium have already been alluded to (Buckner, 2017, 2018) and will not be repeated here. Notable are resistance to a new format, inability to appreciate benefits, director and artistic director resistance, not invented here and other killer phrases, fear of risk of a poor gate and lack of attention span and focus (Ringling Bros. three ring circus stopped performing). Some of these are because of culture change considerations.

Cultural Considerations

The importance of new media upon culture change and vice versa is being overlooked by ISSS and societies in general. Why should culture be a consideration in implementing a new medium?

Different cultures have different "outputs" of the theatre organization. For example, Kabuki in Japan has a different "look and feel" than western theatre. East Indian theatre is exemplified by a 12 hour long national treasure performance of the vakayana Mahābhāṣya (Patañjali, 1987-1988) in three volumes). Some say that Sanskrit theatre pre-dated Greek theatre that was introduced by Alexander the Great to India. In periods of Islamic conquest, theatre was forbidden.

From a business organizational perspective, the following have been identified as reasons why culture change is hard. The following bullets and figure are taken from executivis.com.[xx]

Organizations:

- Lack a language for culture.
- Lack a measurement for culture.
- Lack an understanding of culture change.
- Are missing clear connections between culture, team building, and leadership development.
- Fail to connect culture and strategy.

Every organization has its own culture--the theatre industry is no exception. Individual production companies/theatres may have their own actors and repertoires. Audiences may have their own cultures: those that frequent New York Broadway theatre may differ from Chicago audiences that are more open to experimentation and Los Angeles audiences that cater to the LGBTQ community in contrast to Salt Lake City audiences that probably do not.

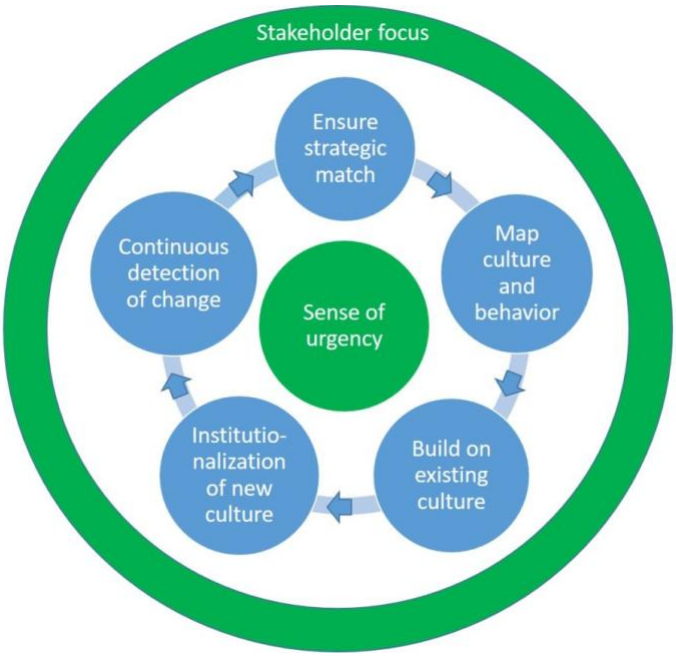

Figure 5. The Organizational Culture Change Cycle

The above figure, taken from the last reference, is useful in understanding an organizational change cycle. The diagram is similar to a system bounded by stakeholder focus where culture change is influenced by a Sense of Urgency. Theatre producers are most interested in profit and survivability of their theatre organization (many perform only Shakespeare or other tried and proven plays). Any change must pass the test of ensuring a strategic match that could be conceptualized as a feedback loop with a set point (status quo). In contemplating change, it is useful to map culture and behavior. It is very important to build on existing culture. See John R. Boyd on "Destruction and Creation."[xxi] The new medium only adds projection of the MS Word script with embedded multi-media in a wide variety of forms and content, to augment traditional theatre. It takes time, effort, money, leadership and openness to cultural change for Institutionalization of culture change to occur. Continuous detection of change is the beginning of the feedback loop in the systems diagrams presented later.

The above considerations may contribute positively to a marketing strategy for the new medium.

Culture change is a term used in public policy making that emphasizes the influence of cultural capital on individual and community behavior.[xxii] It refers to the following figure--with the direct quote following.

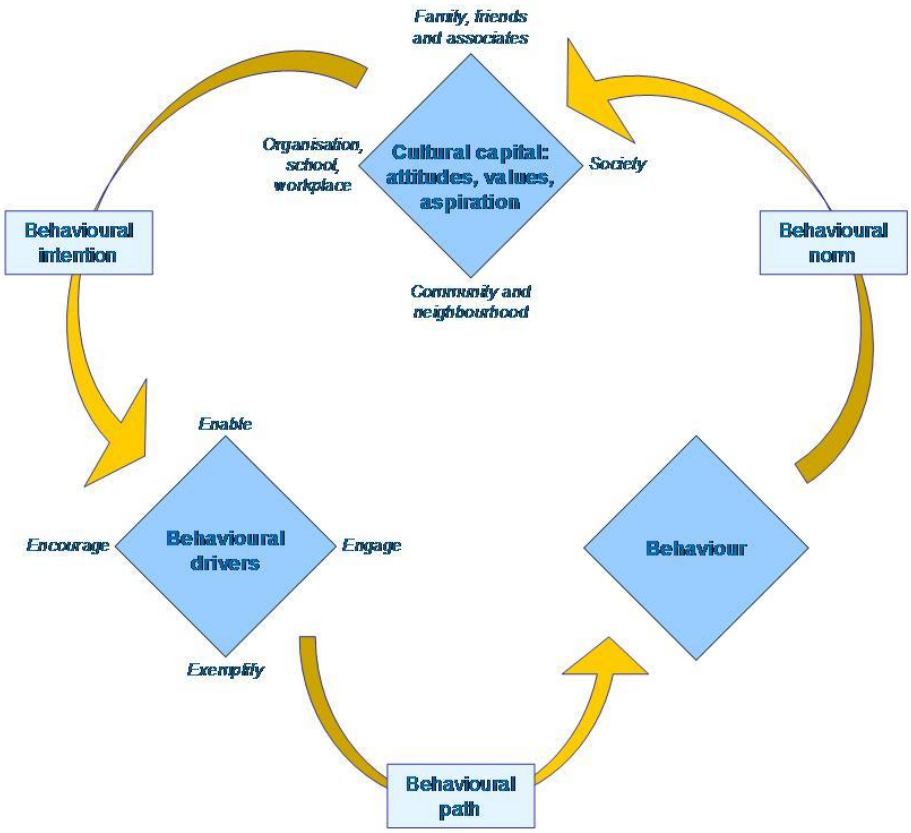

Figure 6. Model of Culture Change

"These cultural capital influences include the role of parenting, families and close associates; organizations such as schools and workplaces; communities and neighborhoods; and wider social influences such as the media. It is argued that this cultural capital manifests into specific values, attitudes or social norms which in turn guide the behavioral *intentions* that individuals adopt in regard to particular decisions or courses of action. These behavioral intentions interact with other factors driving behavior such as financial incentives, regulation and legislation, or levels of information, to drive actual behavior and ultimately feed back into underlying cultural capital.

In general, cultural stereotypes present great resistance to change and to their own redefinition. Culture, often appears fixed to the observer at any one point in time because cultural mutations occur incrementally. Cultural change is a long-term process. Policymakers need to make a great effort to improve some basics aspects of a society's cultural traits."

Technical Difficulties To Be Overcome

- I have not found a way to line number tables and show line numbers in paperless scripts.
- With newer versions of Word and Windows, response times to playing embedded music seem greater.

- Large files take a long time to send/load using emails and some browsers do not allow them.

Distraction vs. Greater Viewability

One fear of potential audience members that I have encountered is of distraction by the extra Window of the projection screen. I always say that they do not have to look at it and it does include the deaf. It may serve as a prompting medium in some cases. This may be a case of cultural resistance. However, in the future, consonant with young people being in the digital age, and the fading out of the use of print, the projection of the new medium script seems more of a winner now than a loser, and, over time, is sure to grow. A key is the sophistication and interest of the audience and general use of the new medium for other purposes than the theatre.

A metaphor useful for countering the question of why have "distraction" comes from doctor patient relationships.[xxiii] Suppose that a patient finds that treatment and/or medication prescribed for a bad medical condition that it is not working, or seems to make things worse, or the medication seems to have deleterious side effect greater than the value of any relief. The patient gathers more information from the pharmacist, websites, anecdotes that friends share with him/her and shares that information with the doctor; the doctor learns and changes the treatment for the better. The point is, sometimes the taxing effort to get more information is helpful or even critical.

EDDSWEMM UPDATE

It is possible to line number individual lines of foreign language lyrics and English translation distinguished by one being left justified and the other right justified. One may manually create tables using tab stops and may number their lines, but this is back to the typewriter age. It is possible to save an EDDSWEMM file in a format such that the line number is printed but this defeats the purpose of the paperless script. The difficulty with losing right hand margins during transmission has been overcome by an easy work around. Chrome now cannot email large files and Dropbox loses the OLE function. Microsoft will not respond to difficulties with their software but may in the future with more use of the medium.

I anticipate full production with paid admission of a moderate length play this fall in the San Francisco Bay area.

FUTURE RESEARCH

Future research may include more application of Systemics in papers about the medium. It may include creation of utility software to overcome the line numbering problem. Deaf acceptance of the new medium should be explored. The idea of EDDSWEMM being a multiplexor might be developed more than time and space in this paper allowed. Cultural change, important in early ISSS work but not much emphasized now,[xxiv] definitely deserves more consideration.

CHM has been suggested as an alternative to Word and deserves investigation. Not all potential users know it or HTML and ISSS papers are required to be in Word .doc or .docx formats. A large number of potential users know Word and it is widely available in free or almost free work settings. Also suggested was that it will be worthwhile to explore the Systemic nature of large

amounts of data and the ways and means available to deal with this data. I want to pursue this and will appreciate any help from ISSS members.

I am also interested in the notion of the new medium as a poor speaker's multiplexor. One does not have to own Frontier Communications to productively use it.

My primary interest is exploration of how this new medium performs on smart phones with the Word APP.

Having an augmented performance with a paid admission is desirable so that I may become a full member of the standards organization.

Audience feedback needs to be measured on an augmented play of significant length. This might be an idea for a morning presentation at next year's ISSS annual conference, in cooperation with a local theatre company or university drama department.

Does a generalized life speaker presentation have a set point, and if so, does changing it cause dysfunctional output?

CONCLUSIONS

Difficulties observed Easter Sunday of a single speaker being distracted by, and perhaps overwhelmed by, the task of coordinating his remarks with multi-media displayed on large digital screens and controlling them (and perhaps being unrehearsed) prompted this paper. There was insufficient testing of showing an included video that did not display properly. The speaker noted wanted to use digital technology to motivate audience interest in his presentation. With assistance in preparing a new medium script, testing, a little practice, some help with projection and some research and imagination in selecting content, careful organization of it, application of the new medium to a general presentation will overcome these difficulties. Presentations will be more interesting, fluid, error free and appreciated.

Return to an Isomorphic System

With cultural change, increased familiarity, audiences with experience with the new media, and acceptance by critics, directors, producers and artistic directors, script format set points may include both the new format and the old. Last year's paper (Buckner 2019) saw the new medium as a bridge over troubled waters. Then, unless the augmented theatre replaces the traditional theatre of the 20th century, the augmented theatre will have a stable set point in the systems diagram and both kinds of theatre systems will be Isomorphic—but different systems.

The following are causes and effects regarding research presented in this paper:

- Word is a new medium that is influencing culture change.

- Word provides a poor speaker's multiplexor of text and digital multi-media--the new medium EDDSWEMM. The following are causes and effects regarding research presented in this paper:

- Demultiplexing the new medium by projection attendant to speaking opens a new window of communication providing more Viewability--the opportunity to deliver more organized information, with less errors and more control, in the same unit of time.

- These bulleted items apply equally to theatre and speaking presentations.

- The new medium will institute culture change and transformation in theatre, public speaking, business and other organizations and society--societal culture change and organizational transformation.

- Within any field of live speaker systems (theatre, speaker presentations) they may be Isomorphic, but if a system incorporates the new medium, it is not with the rest of its field.

- Changing the content and format of a script input to, and projected in, theatre changes the set point and output to the audience and causes temporary dysfunction.

- Resistive dysfunction might be overcome by development of new APPs/utilities, education, incremental introduction, pressure on Microsoft to fix problems, exploration of more workarounds, development of more technology, appeal to digitally encultured people in fields and experience using the new medium.

The notions of look and feel and aesthetics have been raised by a reviewer; this is precisely the meaning of Motivation as defined in my included dictionary. My experiment with Windows productivity and complexity showed a slight increase in productivity measure for this sub-construct.

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[i] Now Claremont Graduate University

[ii] The notion of a field as a boundary comes from Marcus Pierson's comment to that effect in a 2019 ISSS Saturday teleconference.

[iii] https://exsecutivis.com/cultural-change/

[iv] https://www.sciencedirect.com/topics/neuroscience/human-communication

[v] https://www.sciencemag.org/news/2015/01/human-language-may-have-evolved-help-our-ancestors-make-tools

[vi] See the opening sequence of the movie, "2001—A Space Odyssey"

[vii] http://www.historyworld.net/wrldhis/PlainTextHistories.asp?historyid=aa93

[viii] http://humanorigins.si.edu/evidence/behavior/stone-tools

[ix] Buckner, Richard. *Immigrants From the Past,* Multimedia presentation, Thousand Oaks, CA, USA, December 2017

[x] https://nancybakercahill.com/

[xi] https://en.wikipedia.org/wiki/Lascaux

[xii]https://en.wikipedia.org/wiki/Lithography

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[xiii] https://www.britannica.com/technology/lithography

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[xiv] op. cit. wikipedia https://en.wikipedia.org/wiki/Lithography

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[xv] Boyd, John R.: http://pogoarchives.org/m/dni/john_boyd_compendium/destruction_and_creation.pdf

[xvi] effectiveness factor

[xvii] As per clicker controlling PowerPoint slide changes

[xviii] Leonard Troncale, 2019 Saturday morning ISSS teleconference, System Dysfunction.

[xix] There is no standard for dual dialogue and action.

[xx] Op. cit., https://exsecutivis.com/cultural-change/

[xxi] Op. cit., Boyd

[xxii] https://en.wikipedia.org/wiki/Culture_change#/media/File:Culture_change_model.jpg

[xxiii] Leonard Troncale at ISSS recent Saturday morning teleconference.

[xxiv] Peter Tuddenham remarks in ISSS recent Saturday teleconferencing presentation.

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