The Three Phases of Life: An Inter-Cultural Perspective

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Abstract—This paper presents a new direction of research in entertainment computing. The problem addressed is drawing on results from different disciplines: anthropology, sociology, design, and engineering sciences. Starting with the three divine concepts in Hinduism (Brahma, Vishnu and Shiva) each individual human life on earth can be divided into three main phases: (1) childhood, (2) adolescence, and (3) retirement. Each of these phases is specified and characterized by the following main motive complexes: (1) love, (2) power and (3) death. In the Greek mythology the trilogy of Oedipus introduced and discussed already these relationships. In the last century three main psycho-analytical schools concentrate on each of these primary motive complexes: (1) S. Freud on love/libido, (2) A. Adler on power and autonomy, and (3) C.G. Jung on death and transcendence. This paper describes these relationships and discusses the possible contributions of entertainment technology (i.e. Life Action Role Playing) in supporting the two main transitions in each human life between these three phases. Hence cultural computing is based on a form of cultural translation that uses scientific methods to capture and represent essential aspects of a particular culture to support cultural development.

Keywords—*anthropology, cultural computing, initiation, LARP, mythology, ritual, RPG, social transformation*

I. INTRODUCTION

This paper continues in discussing a new direction of research in entertainment computing [1]: Cultural computing [2]. The problem addressed is drawing on results from different disciplines: Anthropology, design, sociology, and engineering. The main objective is a theoretical discussion of the claim: Cultural computing as enabling technology for social transformation [2]. Cultural computing is based on a form of cultural translation that uses scientific methods to capture and represent essential aspects of an individual lifespan in a specific culture. Cultural computing will enable particular cognitive, emotional and behavioral developments through properly designed entertainment technology [3]. Cultural computing is not only integrating cultural aspects into the interaction but also allowing the user to experience an interaction that is closely related to the core aspects of his/her own culture [4]. Hence it is important to understand one's cultural determinants and how to include these core aspects in the design of the interaction and user experience [5]. The western cultural agenda does not seem inclined to produce mature, competent adults [6]. About 80% of the world's population adhere somehow to a religion (i.e. Christianity with around 2 billion and

Islam with more than 1 billion) [7]. Although there seems to be an ongoing tension between science and religion, most citizens are still related to one of the top-5: Christianity, Islam, Hinduism, Chinese traditional religion (a combination of Confucianism, Buddhism, and Taoism), and Buddhism. In a framework for entertainment computing Nakatsu and I [8] described the future challenges of any entertainment product contributing to positive societal developments. Next I will summarize some of the main achievements of well established religious and other structures.

II. CULTURE, SOCIETY, AND INDIVIDUAL

In a couple of thousands of years the peoples of four distinct regions of the civilized world created the major religious and philosophical traditions that have continued to nourish humanity into the present day: Hinduism and Buddhism in India (earliest indication of an religion dates back to 5500–2600 BC); Confucianism and Taoism in China (Taoism purportedly written by Lao Tzu dates back to 400-300 BC); monotheism in middle east; and philosophical rationalism in Greece (dates back to around 700 BC). 'Monotheism' and 'philosophical rationalism' is the religious and cultural foundation of the occident.

Hinduism is the world's oldest religious tradition; it is also the third largest in the world, after Christianity and Islam [9]. In Hinduism we can find the three divine concepts of Brahma, Vishnu and Shiva that are of particular interests. In Hinduism it is believed that Reality is *One*. This Reality is in everything, in every being and everywhere. At the same time it is *One* and *Many*; it also transcends them both. In daily life, the one reality is worshipped in form of the Trinity: Brahma the *creator*, Vishnu the *preserver*, and Shiva the *dissolver*. Brahma, Vishnu and Shiva are not different gods; they just represent different dimensions or faces of the One Reality. These three 'faces' describe a generic concept how any entity and phenomena in this One Reality has to relate to.

If we apply this trinity from Hinduism to the human life span, we can distinguish three separate phases [10]: (1) getting into our world, becoming born, the building up phase through creating knowledge and expertise; this phase is called *childhood*; (2) the perseverance phase called adolescence or *adulthood*; and finally (3) the dissolving and decline phase called *retirement* or 'third phase'; in this last phase of life, the

person is in a retreat from worldly life until its ultimate transformation through death, hence leaving our world. According to Hinduism a 'good death' should be prepared for throughout life, and entered into consciously and willingly [11].

III. THREE MAIN CONCERNS IN EACH INDIVIDUAL LIFE

A human brain can be described as a pleasure seeking system that has sophisticated circuitry to generate and appreciate pleasurable stimuli [12]. It does make sense seeking to establish what does trigger pleasurable stimuli. Beside cognitive processes the brain is also home to affective processes being the seat of our emotional experiences [13]. Current knowledge of functional neuro-anatomy of the brain indicate that sensory inputs and their assessment play a major triggering role in the emotions that we experience; see for example Nolte [14]. Furthermore, the assessment of sensory inputs is generally performed in line with personal concerns. These concerns can be individual, or universal, general or specific (i.e. comfort, well being, and social relations). My interest in these emotional concerns lies in those that are universal, I call them *major concerns*. I advocate that these major concerns are generally related to: (1) *love* (e.g. happiness, bonding, friendship, caring, and lust); (2) *power* (e.g. self-confidence, maturity, autonomy, responsibility, and preservation), and (3) *death* (e.g. anxiety, fear, violence, destruction, and dissolution).

In phase-1 (OC-CA; see Figure 1) each human builds up his/her autonomy by gaining power over themselves and control over the environment. In phase-2 (CA-AR) the autonomy is coupled with maturity and responsibility for family members, society and environment through the power position, strategies and tactics learned. In phase-3 (AR-RO) a human loses control over him/her-self and is heading towards death.

Getting into our world by birth we call TRANS-OC. Between phase-1 and phase-2, (called TRANS-CA) and between phase-2 and phase-3 (called TRANS-AR) are two major transitions throughout any human life on earth [15]; of course there are also the ultimate 1st and 4th transition through *birth* (called TRANS-OC) and *death* (called TRANS-RO), but I will not discuss TRANS-OC and TRANS-RO in the context of this paper because they probably need the justification of an outerworld through an eternal divine concept [16].

What is noticeable is that our lives are rich with combinations of these major concerns: Love, power and death [17]. Certain combinations are not necessarily balanced between the three. In fact it seems that power is the most attractive concern with utilizing on death, and love the most desired means used to overcome selfish and egoistic power (Gandhi's doctrine of non-violent protest and civil disobedience to achieve societal transformation has been hugely influential worldwide [18]). Our trilogy of emotional concerns has been established by looking at several elements of human history, culture and religions e.g. remarkable events, lasting buildings and work of art that have a certain historical or cultural value. Indeed historical events are all reported within the perspective of one of the three concerns (e.g. king legends, wars and love stories). It is cross cultural and cross centuries (Mahabharata 5BC – 2AD, Shakespeare works such as Macbeth 1605-1606 AD, and Romeo and Juliet 1594-1595 AD). The three phases of life and the necessary transformation between those is also fully captured in the ancient occidental Oedipus Tragedy [19], first in 429 BC publicly performed in the polis of Athens to educate and prepare all citizens for their life [20].

The whole Oedipus tragedy is outlined in three separate books emphasizing different aspects of human life and fate [19]. The life of Oedipus is described in three parts
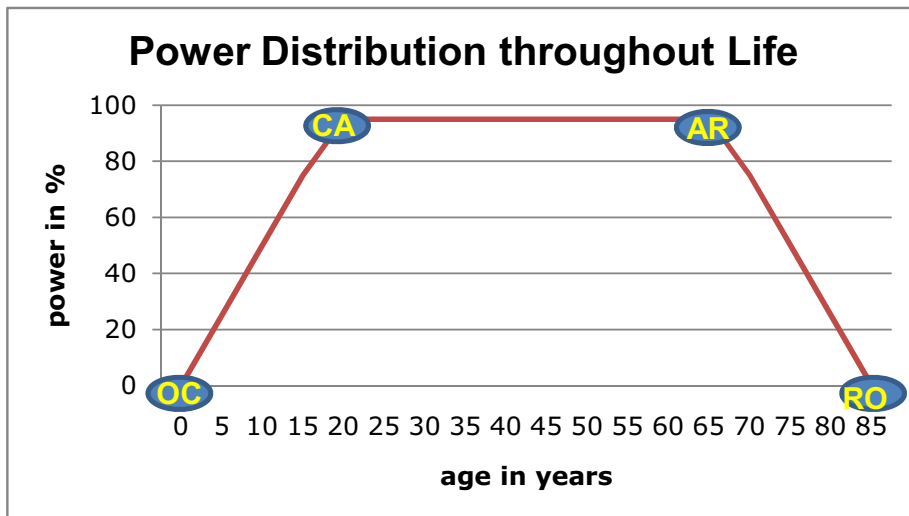

Figure 1—Diagram of the power/autonomy distribution throughout life in an idealized universal manner (primarily focused on industrialized countries); phase-1 [0-20 years] of increasing power and autonomy, phase-2 [20-65 years] of maximum power and autonomy, and phase-3 [65-85 years] of decreasing power and autonomy. Mental, emotional and physical transitions are: **OC** from **O**uterworld into **C**hildhood (*birth*), **CA** from **C**hildhood into **A**dulthood, **AR** from **A**dulthood into **R**etirement, and **RO** from **R**etirement into **O**uterworld (*death*).

(see Figure 2): Part-1 in which *Oedipus* as a baby was sentenced to death by his own parents *Laius* and *Jocasta* (king and queen of Thebes), survived through the mercy of the executioner, grew up at *Polybus'* neighboring kingdom, and become finally king of *Thebes* as the oracle *Creon* predicted already after his birth. Part-2 in which king *Oedipus* ruled *Thebes* and had four children with *Jocasta*: *Antigone* and *Ismene* (daughters) and *Eteocles* and *Polynices* (sons); when he was forced to find out that he had killed his father *Laius* and had married his mother *Jocasta*, he felt deeply ashamed. In the final part-3 *Oedipus* was so shocked about what he had done that he wanted to do penance by blinding himself and searching for a way into the *Hades*[1] to become dead. Both transitions from childhood the adolescence and from adolescence to retirement are inherently in a tragic manner unavoidable to Oedipus; this was and still is the main message to all citizens: Life contains and requires these two necessary transformations from one phase to the other! The final and most challenging third transformation is the death. As long as humans are mortal, any normative concepts prolonging life at any costs seems highly questionable. Instead of avoiding facing death, effective preparation for this ultimate transformation is preferable and therefore recommendable. Any culture and society neglecting this can be considered incomplete and inhumane [21, 22].

Figure 2—Picture-a shows how king Polybus rescues the child Oedipus (phase-1); picture-b shows how Oedipus became king and rules Thebes (phase-2); picture-c shows Ismene and Antigone accompanying the blind Oedipus on his way to the underworld (phase-3). [Pictures retrieved from internet]

Interestingly we can even find these three main concerns also reflected in the three main psychoanalytical schools of the 20th century: primacy of *Love* by S. Freud, primacy of *power* by A. Adler, and primacy of *death* by CG. Jung. Each of these schools claims their own importance and criticizes the shortcomings of the others. All together they can indeed capture and address the whole life span.

Around 500 BC a Greece theater represented a sacramental place, where the actors and audience joined together worshipping. A drama performed on stage was an offering to the gods, a ritual that might bring blessing to the citizens. In *Oedipus at Colonus* and *Antigone*, Sophocles refers to the particular ritual, the *Eleusian* mysteries, a rite that offered its initiates the assurance of eternal life by giving them confidence to face

death and a promise of bliss in the dark domain of Hades whose rulers became his protectors and friends through initiation [23]. Such ritual with a main initiation included at least three important elements: (1) The things which were enacted; (2) the things which were shown; and (3) the words which were spoken. The two main transitions TRANS-CA and TRANS-AR have to be implemented in form of rituals as part of daily life of citizens. These rituals need also an adequate legal status authorized by society to avoid e.g. the age related inconsistencies with the Christian ritual of 'confirmation' [24]. TRANS-CA and TRANS-AR have to be timely synchronized with the working life phase. Modern societies, in particular in industrialized regions are wealthy enough to afford that children and retired ones do not have to contribute directly to the economical reproduction process. This was and still is not always the case [25].

IV. SOCIETAL TRANSFORMATION THROUGH RITUALS

According to Alcorta and Sosi [26] there are four cross-culturally recurrent features of all religions that they consider to be integral components of this complex: "Belief in supernatural agents and counterintuitive concepts; communal participation in costly ritual; separation of the sacred and the profane; and importance of adolescence as the life history phase most appropriate for the transmission of religious beliefs and values" [26, p. 325]. In the past and probably in the future as well, religion and the included rituals are central to the continuing evolution of social life [27]. Rappaport insists that religion can and must be reconciled with science by combining adaptive and cognitive approaches to the study of humankind. One of a religion's main components is the ritual, which constructs the conceptions to be religious and is therefore central in the making of societal transformations. Alcorta and Sosi [26] characterize rituals through (1) formality, (2) patterning, (3) sequencing, and (4) repetition; these are basic aspects of a religious ritual, and signals of condition, status, and intent constitute 'action releasers' embedded within that structure. In particular social signals of dominance and submission (i.e. bowing and prostration) are important components of religious rituals worldwide.

According to Boateng [28] is traditional [African] education there to be acquired and in addition –even more important– to be lived. Education will be acquired by the children through the maintenance of and participation in social, political and religious activities; established rituals guarantees and ensures effective communication between the different generations. "Intergenerational communication refers to the smooth transmission and continuous preservation of the values and traditions of a society from one generation to the other. Intergenerational communication ensures a peaceful transition from youth to adulthood, and creates an understanding between the generations of the proper roles of each in the society" [28, p. 322]. Boateng analyzed the role of traditional oral literature, secret societies, and other religious practices in upbringing and education. Oral literature encompasses fables and folktales (to convey moral lessons), legends and myths (to supply

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[1] *Definition*: In Greece mythology the underworld is abode of the souls of the dead.

accounts of the groups origin, related precedents to actual beliefs, actions, and codes of behavior), and proverbs (to be used as validations for traditional procedures and beliefs).

The secret societies are formally responsible of overseeing the initiation ceremonies of boys and girls to become adults. In western cultures the "transition from youth to adulthood, with its sexual ripening, is accompanied with prolonged conflicts marked by varying degrees of frustration, guilt, and at times a total break in intergenerational communications. In traditional African societies, secret societies or initiation ceremonies helped the African youth to avoid this break in communication and all the attending negative reactions" [28, p. 332]. The 'secret' education of boys included complicated sacred myths, secret languages, ritual dances, religion, and magic. Boys were also trained to work collectively, giving a hand where needed. Girls went through a comparable education of initiation too.

Through the enlightenment period in the West most of these aspects and ingredients seem not at all or at least hardly applicable in Western cultures although any healthy society seems to have a fundamental need for intergenerational communication supported by rituals [27]. The disappearance of rituals in the West seems to be influenced amongst others by urbanization [29], and urbanization has a negative effect on the mental health of citizens [30]. Busselle, Ryabovolova and Wilson [31] argues that content (i.e. norms, values, beliefs) with the potential to transport culture is very important to cultivation effects, in particular when the citizen is actively involved in the acquisition of the cultural content [see also 32]. In this respect it is very striking to see that Western societies on one hand are striving for a peaceful society and on the other hand providing such an enormous amount of *violent* content in mass media, games and other culture technology [33]. Now I will discuss the expressive possibilities provided by emerging technology and upcoming design frameworks for entertainment.

V. SOCIETAL TRANSFORMATION THROUGH ENTERTAINMENT TECHNOLOGY

In the game design community it seems to be an ongoing struggle how to utilize and draw on concepts like non-linear narratives, interactive cinema and/or storytelling, ludology, etc. [34]. For example, the ability to design our own 'skins' encourages us to create characters who are emotionally significant to us, to rehearse our own relationships with friends, family, or colleagues or to map characters from other imagination spaces like fantasy worlds onto The Sims world (© Maxis. Electronic Arts). In this respect we can even learn basic social aspects in playing games like Sims.

Some years earlier Nakatsu [35] envisioned already a new type of entertainment technology by merging the appropriate parts from games, TV, poems, novels, and movies into a new type of media. Later Nakatsu and I presented a framework for interactive entertainment based on the two dimensions: (1) *presence* [categorized in physical, integrated, and mental]; and (2) *experience* [from passive to active] [8]. How to apply virtual reality technology for desiging a cultural computing application is described elsewhere [36]. Following this direction we go beyond traditional game design. To become successful we have to care very much about details from the original content (ritual, folk tale, narrative, story line, etc.) and finding the most appropriate interactive form [4].

Extending the traditional game design approach Salem [37] proposed a new concept: *Kansei*[2] *games* [see also 38]. A Kansei game cannot be a traditional game with clear objectives such as goals to reach or races to win [39]. A new type of game mechanics translates Kansei values into game rules, play narratives and players experience. To exemplify Salem refers to known stories of Asian culture such as the Zen based Ox Herding pictures helping to explain how to reach *Satori*[3]. He also recommends investigating the selection of media and modalities to deliver an enriching user experience; these are: text, discourse, sound for explicit media; voice tone, appearance, distance for implicit media; body language, eye gaze, cultural references, pronunciation and wording of sentences. The amount of user's immersion is influenced by several factors: the amount of sensory involvement [40], the richness of the narrative [41], amount of engagement through action [42], and perceived realism of the situation engaged [31].

The Live Action Role-Playing Games (LARP) are the most suited concepts to design entertainment technology for rituals in which a Game Master (GM) supervises the scene of players [43]. LARP is based on the basic concepts of Role Playing Games (RPG) [44]. The following characteristics of RPGs cover the most significant features:

"The core of the game is role playing guided by rules. Each player takes control of one or more (although typically only one) character. A character is a fictional figure that the player tries to act (as role play).

The player will usually have full control of decision making at the character level. There is no author-audience relationship: Each player has a hand in developing a personal, perceived story.

The game is usually set in a fictional reality, which is communicated via the fictional contract. The contract is the shared understanding among the game participants of the game setting/world.

With very few exceptions, the games are supervised or guided by a GM, who assumes a variety of responsibilities depending on game type and style of play, notably, (a) facilitation of game flow, (b) environmental content, (c) administration of rules, and (d) engagement/entertainment. Some forms of LARP place very little emphasis on the GMs as guides and controllers of the games, and in these cases, GMs are delegated a role more akin to a player with some extra management functions.

At least two participants are required. In general, noting the above exception, these will be a player and a GM. Typically these roles are fixed, although in some games, the roles

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[2] *Definition*: Kansei design covers all functions related to emotions, sensitivity, feelings, experience, and intuition.

[3] *Definition*: A spiritual awakening sought in Zen Buddhism, often coming suddenly.

are interchangeable. The players and GMs together are the participants of the game" [43, pp. 254-255].

A LARP is a very special kind of player experience in real world that requires a lot of effort to prepare and be executed properly. Based on my introduction of rituals for societal transformations a LARP can frame the experience in such a way that it is not only about having fun together but also having a profound symbolic message beyond violent behavior. The design of the player characters should be central and the starting point "by building up several frames from the basic character frame over the social frames to the cultural game world frame" [45, p. 90]. A LARP has all required ingredients and is played in real world and therefore highly realistic − such as rituals, hence maximizing player's experience to achieve a deep emotional long lasting effect. However all realized LARP narratives are taken from the Middle Ages, therefore I propose to transfer them into the future by taking prototypical narratives from the present, giving LARP a new and modern look and feel. Now I will present the big picture by sketching the basic design ideas of rituals mapped onto LARP structures and adding missing aspects if required. The fundamental difference to existing LARPs will be that this new type of LARP is part of the real social life in a large scale and not next to it as an entertainment niche.

TRANS-CA: This transition does not necessarily belong to a religious system although it might be helpful (could be an option, like marriages today in Asia). The GM has to come from the adults (but not from retired ones), specialized on this particular rite to initiate children to become adults. Although the participation is entirely voluntarily, the 'contract' will be authorized by society and has therefore a kind of obligation to both: the initiates and all adolescents of this particular society. The children have to provide sufficient evidence for the required intensive training beforehand (i.e. formal and informal education, social skills, etc.). Through this initiation the 'child' gets full legal and social responsibility [46]. This rite can take up to one day and involves a limited number of specialized characters (e.g. the audience is part of this). The action structure can be the demonstrations of the initiate's attitudes, skills and ethics to perform well as adolescent. It will be experienced by the initiates as a mental and emotional 'caterpillar-butterfly' effect [47]. "At once, the ritual establishes a symbolic perspective that refers to what the initiate is now (i.e., what status he occupies and what this implies about his personal character), what he shortly will become, and what he must not become" [46, p. 1118]. Through this ritual the initiates should become legally and financially independent from their parents. The public audience either physical present or connected via internet can support but also challenge and test each initiate. TV shows of the 'Big Brother' kind contains already elements of these ideas [48]. All in all it has to be clear to each initiate that society takes the outcome of this ritual seriously, but in a playful manner (like a 'serious game').

TRANS-AR: Most aspects can be transferred from TANS-CA. The important differences are: GM comes from the retirement phase. After publicly presenting and celebrating the achievements from phase-2 ('working life'), the main objectives of phase-3 are put forward: preparing for death by adapting to get detached from reality (e.g. an inheritance schema will be contractually fixed), and learning how to say good bye and give up power and control. A new type of elderly homes could be set-up to run this ritual for the new inhabitants.

Of course these rough design ideas for TRANS-CA and TRANS-AR have to be worked out in much more detail. I also assume that the cultural embedding by referring to existing proverbs, etc. is sufficiently given. I envision that both designs could be implemented in theme park like organizations running big events as initiation rituals authorized by society, interconnected and broadcasted widely.

VI. MECHANISM FOR DISSEMINATING SOCIETAL CHANGES CROSS GENERATIONS

If we acknowledge that people's individual norms may deviate from an established collective norm, than we should identify a way to address these relationships [49]. Culture can only exist on the collective level, beyond the individual. The cultural determinates are mainly unconscious [50]: Culture is always ambient to individuals as carrier of cultural knowledge and collective as a synchronisation mechanism for the behaviour of these individuals [51]. The following metaphor helps to describe this double nature of culture: 'the drop is in the ocean, but the ocean is in the drop as well'. Jung [52] has seen this with remarkable clarity and provides a framework to describe the knowledge structure of the collective unconsciousness. But what might this 'collective unconscious' be?

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