

## Research Report

# Intercultural Collaboration in Telematic Multimedia Performance: Exploring Aesthetic Integration and Composition Techniques through Collaboration Utilizing Sensing and Networking Technologies

Haruka HIRAYAMA  
Hokkaido Information University

Hideaki ISOBE  
Tokyo College of Music

Justine GOUSSOT  
Independent Artist

Iannis ZANNOS  
Ionian University

## Abstract

This paper analyses the methodology of intercultural collaborative project between computer musicians, digital artists and dancers. The project resulted in a performance named *Magnetic Dance*, presented at the Europe Cultural Capital festival in Elefsis in October 2023. It involved 2 Japanese Dancers, 2 European Dancers, one Japanese Performer, 2 Japanese and 1 Greek composer and 1 digital graphics artist. The performance was based on the hellenistic myth of Echo and Narcissus and the Japanese Medieval Noh play *Izutsu*. Both local and distributed performance modes were employed, including a dialogue between a dancer in Elefsis and a performer in Tokyo. The paper analyses the conceptual, dramaturgical, technical and performative methodologies developed and used in the project from its conception to its production. Main tasks analysed are: design of interaction between dancers and music, creation of the work's musical, choreographic and dramaturgical structure, the communication flow between dancers and musicians, and the different creative practices of musicians, dancers and the digital artist. As a main point, the paper emphasises the necessity of close cooperation between artists during the development of the project. It describes a methodology based on short development cycles with close feedback between members of the group, which is fundamentally different from that of linearly developed performances with clearly divided roles between composers, engineers and performers. The discussion shows how the group dynamics of such a methodology also permits the emergence of individual leading roles addressing separate aspects of the performance such as dramaturgy, choreography, sound and software development and conceptual work, while at the same time allowing transparency and communication throughout the production process.

## 1. Background

The present paper describes a networked interactive dance and music performance created by a partnership between a group of Japanese and Greek performers under the artistic direction of Iannis Zannos. The creation of this performance presented challenges on a wide range of aspects. These include: finding cultural parallels and common themes to illustrate the affinities between greek and japanese cultures, remote collaboration in the creation of scenarios, musical compositions and choreographies for the chosen stories, rehearsing and performing both remotely and locally, and developing techniques to enable the seamless interaction between the movement of dancers and the generation of sound and graphics. Here we outline each of those aspects in turn, and report on the actual unfolding of the collaboration process as well as its results.

The project grew out of meetings among artists who shared an interest in exploring the relationship between music and dance through technology, particularly motion capture sensors. By using these sensors to capture movement and translate it into musical expression, the artists were able to gain a deeper understanding of the interaction between body movement and sound forms synthesised in real time, and of how this is used in a dramaturgy based on a classical myth repertory. This fusion of art forms opened up new avenues for creative exploration, leading to an intercultural collaborative work that highlights the synergy between sound and movement.

The central topic of the project was given by the European Cultural Capital in Elefsis, in which the performance was presented. It concerns the Eleusinian Mysteries, which are rituals devoted to the myth of Demeter and her daughter Persephone. The central myth of the ritual focusses on the archetypal myth of a mother searching for her daughter, symbolically representing the cycle of seasons illustrated by Persephone's descent into the underworld in Winter and her return to earth in Spring. In

order to create a performance representative of the artists native cultures while also staying faithful to the main message of the Eleusinian Mysteries, we selected representative myths from the classical repertoires of European and Japanese antiquity that are intimately related to the myth of Demeter and Persephone at a deeper symbolic level. As central elements in our search for a connection to the notion of fertility which figures central in the of Demeter and Persephone emerged the symbols of (1) water as essential element for life and (2) cyclic regeneration, represented by the alternation of seasons between death (autumn, winter) and rebirth (spring, summer). Both of these symbols figure directly and indirectly in the European and Japanese myths that we chose for our performance. These are the myth of \*Echo and Narcissus\*, from the poetic circle \*Metamorphoses\* by the Roman poet Ovid, and the myth of *Izutsu* (Well-Cradle) from the work of the same name by the Japanese playwright Zeami. Additionally, we sought to recreate the ritual character that is central to the Eleusinian Mysteries as secret initiation rites in the performance. To achieve this, the essential task was to incorporate the main symbolic elements of the myths in a ritual process whose main goal was to create a transcendental experience. By transcendental experience we understand here an experience which is based on physical or mental notions belonging to daily experience of our physical world and opens access to a level of experience beyond it, namely that of an immaterial, spiritual and timeless world.

## 2. Themes: Parallels between “Izutsu” and “Echo and Narcissus”, Relation to Eleusis

A love story of universal caliber has the potential to overcome the limits of historical period and geographical place and represent attributes and experiences shared between many cultures. Upon closer inspection, *Izutsu* reveals features reminding one of two love stories from hellenistic and roman classical western culture, Longus’s “Daphnis and Chloe” and Ovid’s “Echo and Narcissus”. Like the children playing at the Well Spring in *Izutsu*, the novel of Longus “Daphnis and Chloe” portrays the birth of love between a boy and a girl in rural antiquity, and the trials that they undergo as they grow into adulthood, until they can be reunited again. (Note: The 19th century writer Higuchi Ichiyo has adapted the children’s play episode of *Izutsu* in her short story “Takekurabe”, into a piece describing the tragic situation of working class youth in Japan of the early Meiji period.) Like The Lady, the Nymph called Echo in Ovid’s *Metamorphoses* seeks to unite herself with her lover through her reflection. In *Izutsu*, the reflection of the woman on the surface of the water features in the end of the play as a cathartic moment of resolution, emphasized in the text with allusions to Buddhist beliefs about eternity, transcendence of time, and finding peace in the union with loved ones beyond death. In Ovid’s poem, as in Zeami’s play, the woman reflects features of her lover

in her longing to reunite with him. In Ovid’s “Echo and Narcissus” the notion of reflection is split into two different manifestations, namely a visual and an aural one: Narcissus reflects his own image on the surface of the lake water, and Echo reflects with her voice the voice of Narcissus, as a way to stay united with him. Thus, in “Echo and Narcissus” the concept of reflection is present into two separate episodes of the story, corresponding to the two domains of the dominant senses, vision and hearing: Reflection of the image and reflection of sound: Narcissus The reflection of Narcissus’ image on the water is associated with self-infatuation and reflection of his voice through Echo is associated with unrequited yearning for approval and intimacy.

### 2.1. Izutsu and Eleusinian Mysteries

Taking the play of *Izutsu* as a starting point the present projects explores the symbolic potential the story of the Noh play and highlights its relationship to themes known from myths associated with Eleusis and Eleusinian Mysteries. The Lady (Daughter of Ki no Arisune) features prominently in *Izutsu* as a female figure of deep religious and emotional significance. Ancient Cult in Eleusis is associated with Demeter and Persephone as goddesses symbolizing the fertile female element. As The Lady unites with her love beyond death, so Demeter strikes a deal with Hades, the lord of the Underworld, to return Persephone to the world of the living during six months each year. The story of the quest to the underworld to win back a loved one is found in several variants in ancient Near Eastern mythologies (Sumerian Myths of Astarte, Eresh-ki-gal and Dhumuzid, Thracian Myth of Orpheus and Euridice, and others).

In summary, we point out the following concepts and motifs found in *Izutsu*:

1. Transcending the barriers between this world and the world beyond (Appearance of The Lady as Village Woman and as ghost of the Daughter of Ki no Arisune)
2. Reuniting with the loved one, across barriers of place and time (Final dance of The Lady).
3. Union with the loved one through transfiguration into their image (Final dance of The Lady).
4. Transition between childhood and adulthood (The couple’s play at Well Spring as children, and their exchange of poems)
5. Womanhood, fertility, water, community (Symbolised by the Well Spring, *Izutsu Tsukurimono* and The Lady’s dance around it)

The story is permeated with references to transition, transfiguration and transience. Transitions between life phases in time, related to adulthood and entering in life

partnership, between past and present, between the world of the living and the world of the departed, and between the being or identity of the self and of the beloved other. A striking disparity becomes apparent when comparing the references to the transience of life and the other world with the associations to fertility and (continuing, regenerating, communal) life connected to the dominating stage element of the story, the Well Spring itself Izutsu and by the image of innocent play of children around it. Aided by the imagery and text of the play as well as its classification in the Noh repertory as an autumn play, it is possible to suggest a plausible layman's interpretation that reconciles the two groups of elements above: As an autumn play performed in September, Izutsu marks the beginning transition to winter (Autumn Equinox). That is the time when in Greece Persephone was said to leave the world of the living in order to return to Hades. The sadness and dark expectant mood of the beginning of the play could be related to the sense of anguish sensed when experiencing the shortening of daylight and the withering of vegetation at the beginning of winter. At this point, the Wandering Monk hints at the main theme of the play, when he says "*Sono Narihira no Tomo to Seshi Ki no Aritsune no Johnaki Yo*". "The friend of Narihira was called, 'period of persistence' ('Ki no Aritsune'), of an impersistent world (tsune naki you)." The main character of Izutsu, "The Lady" is identified indirectly in the course of the play as the Daughter of Ki no Aritsune, that would be the Daughter that has persistence, i.e. The Everlasting One. In other words, the play is about the assurance of the permanent resurgence of life through a quasi-divine Feminine Spirit. As the Daughter of Ki no Aritsune reunites herself with her lover Ariwara no Narihira, she ensures the rebirth of life. Thus, the Well Spring that gives Izutsu its name, and that dominates the centre of stage throughout the play, has twofold symbolic significance: On the one hand it is a portal to the other world, through which The Lady meets her Lover in her own reflection. On the other hand it is the symbol of life-giving water and the source of life and youth in the town where it is. The offering of flowers and water by The Lady to the remains of Ariwara no Harihira (her lover) and the moving story of the beginning of their relationship as children playing at the Well Spring serve to underline this life-giving significance of the Well Spring. In other words, Izutsu is an autumn ritual, led by a female spirit representing fertility, that reassures us of the cyclical continuation of life through love.

### 3. Team Formation and overall structure

At the initial phase of the project (2018), the team consisted of Iannis Zannos as composer and interaction designer and the dancer duo Jun Takahashi and Asayo Hisai. In 2019, the Japanese composers Haruka Hirayama and Hideaki Isobe joined. In order to make the collaboration more manageable, it was decided to divide the perfor-

mance into two distinct parts, separately treating the stories of "Echo and Narcissus" and of Izutsu. Thus, the team was completed by the addition of dancers Justine Gousot and Natali Mandila for "Echo and Narcissus", Vicky Bisbiki for the creation of live as digital graphics the artist Yoshiya Yoshimitsu who performed remotely from Japan in pieces framing the entire performance and providing a link between the two distinct parts ("Echo" and "Izutsu"). Thus, two independent pieces were created, addressing the themes "Echo and Narcissus" and "Izutsu" separately. These pieces were joined into one overall arc by frame conceived in collaboration with all artists, which featured emotive performances of Yoshimitsu Yoshia from Tokyo in live dialogue with Justine Gousot in Eleusis as well as a pre-produced video created by members of the teams in Greece and in Japan.

### 4. Gestures and Sound Performance

Gestures have a variety of roles and definitions, including an auxiliary role in verbal communication (Cassel 1990), but gestures produced in the context of the performing arts are generally interpreted as an expression or embodied representation of the dancer's emotions (Camurri et al. al., 2003). On the other hand, gestures also occur when people play musical instruments. In the case of gestures associated with playing a musical instrument, the gesture itself is not a purpose, but a gestural control (Overho Ket al., 2009) as a performance medium necessary for playing the instrument, and is often not so large a movement as to be considered a gesture. However, as the recent example of the 'air guitar' shows, it is also true that we have a mental image of the performance gestures for a certain sound, such as 'the performance that makes the sound will be accompanied by such gestures'

How can gesture as embodied representation and gesture as performance medium be fused together with sound? In particular, what approaches are possible to reconcile the visual representation by the dancer with the physicality of the performance medium of the instrument? When we ask this question in the composition of computer music with physical representations and sound interactions, it is important to carefully consider what gestures can be linked to what sounds or sound changes. And in order to translate each dancer's unique physical expression into a detailed, accurate and smooth musical interpretation, it will be important to develop a system that allows the unique movements of each dancer to become the performance medium of the instrument, and to tune it meticulously. However, on the other hand, a performance resulting from the elaborate transformation of dancers' movements into sound may be perceived from the audience's point of view as a conventional accompaniment of dance to music, and whether dance and sound are interactive in the first place may be perceived by the audience as not being particularly problematic in appreciating the work. There is also

a perception that whether dance and sound are interactive or not is not a particular problem for the audience to appreciate the work in the first place.

With these considerations in mind, the production of this work was developed through a series of experiments with the dancers and discussions about the construction of an interaction system and the design of a gesture-sound mapping.

## 5. Choreographic Treatment Echo and Narcissus

For reasons of size and time limits, the present paper limits itself to a presentation of part 1 of the performance (Echo and Narcissus).

The choreography of Echo and Narcissus was developed by Justine Goussot and tested a series of collaborative rehearsals with the other members of the team. Previous choreographic treatments of the Echo and Narcissus myths (Michel Fokine, 1911; Christofer Williams, 2022) or inspired by a related complex of notions and approaches (Pina Bausch: “Vollmond”, 2005; Wayne McGregor: “Infra”, 2008; Akram Khan: Xenos, 2018) focussed on the idea of emotional isolation, unfulfilled desires, non-reciprocity of feelings, or more psychoanalytically explore Narcissus’ pathological egocentrism (Jacques Lacan, 1966, Heinz Kohut, 1971), the question of gender in a more feminist discourse (Judith Butler, 1990) and an illusory relationship to reality. However, a common trait amongst these can be said the approach of Echo and Narcissus as a pair of opposites, existing as a duality, in distance and isolation from each other.

However, it is possible to consider the foundations of the myth from another angle, which mitigates this duality and defines both characters according to a parallel destinies, inscribed by the loss, transformation, and a passionate and simultaneously destructive nature: They are both born and grow up as victims of the gods’ violence and injustice. This divine violence is their common ground, the one that unifies them by forever marking the tragic direction of their existence. Their demise is not through death but through transformation. Both Echo’s and Narcissus’ transformation entails the disembodiment, symbolising the inability to exist, in a manner prefigured in Baudrillard (1981) as the collapse between reality and its representation. This approach opens up an avenue for dealing with recent phenomena of disembodiment associated with the ubiquitous use of digital media and social networks. In this sense, the notion of narcissism can refer to a widely globalized behavior which, through a preoccupation with one’s image and impact on social networks, can be assimilated to Narcissus’ obsession with his reflection, while a paradoxical isolation simultaneously occurs (Turkle, 2011). Moreover, this phenomenon is further impacted by the dynamic of so-called “Echo chambers”, that is the amplification of arguments and points of view through in the relative isolation of social networks

that tend to suppress any form of dissidence. This is reminiscent of Echo’s fate, who with her voice cannot have an opinion but finds herself limited to an eternal repetition of what she hears (Nguyen, 2020). Whereas this is understood on the surface as a loss of identity on the part of Echo, in fact, a deeper look into the myth reveals that both characters are afflicted by an unfulfilled, everlasting search for identity. In the case of Narcissus, this is expressed through his persistent looking at the reflection of his image on the water.

In the context of this approach, the use of motion sensors aligns performatively with the treatment of the myth as a digital mirroring or identity search and consequently with the use of digital space as a creative meeting place between choreographers and composers. This process, which makes writing non-linear, plunges the creative process into an interdependent relationship between media. The use of motion sensors creates a “cyclical dialectic” where the notion of object and subject dissolves in a hybrid moment T. Seeing or looking, hearing or listening, possessing the act of creation or responding by echo, this entire circular process between dancer and musician, between physical and digital space, gives rise to an artistic object, suggesting an exploration of the myth in what it can symbolize today: a digital space (immaterial, disembodied) as a meeting place between two physical realities (the executing bodies of dancer and musician) that comes to question the notion of objectification of reality (the concrete emergence of the artistic object), the possession of creative force (narcissistic ego), and the incessant play between question and response (the Echo).

### 5.1. Applied Technologies and the Sound System

For this part of the performance, body movements were tracked using the IoT development board M5StickC, incorporating gyro sensors and communicating with the computer over WiFi. One of the advantages of the M5StickC is its small size when attached to the body, but one of the problems is that its standard lithium-ion battery can only operate for about 10 minutes, so an external battery was installed with it to solve this problem. This enabled a longer run time of approximately one hour. The M5StickC were allocated individual IP addresses, and the sensor’s acceleration sensors, (Accel X, Y, Z) and gyroscope (Gyro X, Y, Z) data were transmitted wirelessly as OSC messages. These messages were received by Cycling74 MAX/MSP and Ableton Live software for sound generation. At each scene, data values were rescaled to adapt the control characteristics to the expressive requirements of the scene.

In general, the choice of which part of the body to attach a sensor was guided by criteria stemming from the two distinct roles that the dancers’ body movements served in the performance: (1) the role of body movements as controls for the production of sound, and (2) their role as sources or means of expression in themselves. Dancers’

rotational gestures were of paramount importance from the point of view of sound control. Consequently, the two dancers wore three M5StickCs on their wrists, ankles and torso, and their rotational movements formed the core of the sound control.

The tale of Echo and Narcissus was enacted by the dancers Justine Goussot and Natali Mandila, while the sound and interaction algorithms were designed by the composers Haruka Hirayama and Hideaki Isobe. The two composers, Isobe and Hirayama, were responsible for sound design based on the sensing information of each one dancer and with three M5StickCs. The sound for the non-interactive parts was done collaboratively. In other words, the dancers sometimes perform gestures created as expressions of their body movements, sometimes gestures as a performance medium, repeating between the two.

## 5.2. Scenes and Gesture-Sound mappings

The piece consists of three scenes, followed by a short coda.

### 5.3. Scene 1

In the first scene, the dancers stand at opposite angles on stage and move at right angles around the four corners of the stage with rotating arm movements. One dancer takes the role of controlling the sound, while the other dancer is committed to representational gestures. Here the rotational movements of the arms of both dancers are mapped onto the parameters of the changing speed and pitch of the playback of human laughing and speech sounds, bird sounds, and water sounds. The concept of the scene is also expressed by a drone.

### 5.4. Scene 2

In the second scene, Echo and Narcissus develop a growing awareness of each other, accompanied by a sense of tension. The dancers repeatedly move and stand still in a circle, as if they are measuring the distance between them as they approach and move away from each other. At the first half of this scene, the dancers approach each other are accompanied by sound of a traditional Japanese tune played on the four stringed Japanese Instrument biwa in a Japanese (non-western) tuning. Sensors attached to the ankles of both dancers are used, and the rotational movements of their feet as they move and stand still act as switches, that trigger the playback and cessation of the biwa's tremolo sound and of the metallic, drifting, glittering sound effects. During this scene, the role of the dancer's movements alternates between the roles of sound control and pure expressive movement. Initially, expressive movement parts are accompanied by noisy and wind-like sounds. Towards the second half of the scene, movements alternate randomly between free movement and control of a breathy whispered voice sound.

### 5.5. Scene 3

The third scene also begins with the sound of the biwa, with its Japanese rhythm and tune, and the chanting of 'Sho-gyo-mu-jo'. This Buddhist term denotes ephemeral nature of life, and the inconstant, changing nature of all things. This scene, with its slow atmosphere and Japanese sound, changes midway through to two dancers lying on the floor together, moving their arms and legs together as if they were breaking down. Initially the dancers move without controlling sound. However, in this scene a new technique for coupling movement with sound is introduced: This consists of amplifying and modulating the sound of dancer's bodies hitting the floor. Microphones pick up the sound of dancers' hitting the floor, while movement sensors control reverberation. Towards the end of the piece, the sound of the biwa is time-stretched. And fine grain sounds are used, as well as sounds corresponding to Echo, creating a multi-layered time axis in which the afterimage of Echo appears, expressed through noise-based sounds.

### 5.6. Coda

The piece ends with a short coda without dancers, based on a single synth sound that refers back to the opening scene.

## 6. Discussion

When this project was conceived in 2018, it was impossible to guess the scope and complexity of its tasks. Inadvertently an entire complex of interconnected subjects was opened: Development and use of motion capture systems for dancers, languages for dance interactively coupled with sound and graphics synthesis, environments for live coding coupled with interactive dance, internet tools for telematic dance performances, aesthetics and choreography of telematic dance performance, and

## 7. Conclusion

The subfield of collaborative and telematic dance performance with interactive sound and graphics opens challenges in a wide spectrum of fields ranging from dramaturgy, choreography and embodied performance to cognitive and aesthetic issues of telematic dance dialogue as abstract form of telepresence, to developing methodologies and languages for collaboration between dancers and musicians, to novel techniques for interactive management of performance event and musical event timelines, to network protocols for group exchange of control data. The purpose of this article was to communicate the creative experience of core members of the team in the "Echo and Narcissus" part of the performance, and to expose in their own terms the perspective of the motivations and results of the creative process. A more detailed and systematic analysis of this project should be reserved for further work.

As data for this work can server existing recordings of rehearsals and performances, notes made during the production, data and sound recordings, code libraries and recordings of code executed during the performances.

## 8. Acknowledgements

The dancers Jun Takahashi and Asayo Hisai were essential artistic factors the conception, development and production of the Magnetic Dance project. Their generous support and wise guidance as well as their contributions in the artistic development were a key part of the success of the project. The project is a genuinely collaborative undertaking and required dedication, patience, persistence, resourcefulness and creative input from all artists, often up to physiological, psychological and mental limits. To mention briefly the roles of the artists: The dancers Mary Randou and Natali Mandila accompanied the project since its beginning and through series of rehearsals and contributed patiently to the development of interaction modes and their aesthetics. Giorgos Petras enabled early rehearsals and first telematic performances by providing access to artists and facilities of the Greek National School of Dance. Yoshiya Yoshimitsu audaciously and selflessly agreed to perform remotely performer and to played the role of the Monk in Izutsu. Vicky Bisbiki developed the live graphics which demanded complex and risky adaptations to process gesture data relayed from the motion sensors. Dr. Dana Papachristou responsibly led the organization and gave her a discrete and indefatigable support, solving critical production problems under adverse circumstances. Prof. Satoru Takaku provided access to Nihon University's facilities for rehearsals. Composer Takumi Ikeda contributed to the development of the coding infrastructure by participating in telematic live coding sessions with dancers. Finally, Artist and Media Theorist Yang Pulaixin provided the contacts to the young artists community around Musashino University of the Arts, and to Professor Christophe Charles, whose help led to the organization of a workshop series that beta-tested collaborative live coding and networked interaction for sensor-based embodied performance.

## 9. References

- [1] Hirayama, Haruka, and Ioannis Zannos 2021. "Towards an Aesthetic of Hybrid Performance Practice: Incorporating Motion Tracking, Gestural and Telematic Techniques in Audiovisual Performance." In: *Proceedings of the CMMR* pp. 251ff

## 10. Author's Profile

### Haruka HIRAYAMA

is a composer and performer from Niigata, Japan. She graduated as B.Mus. and M.Mus. in computer music

from Sonology Department, Kunitach College of Music and received her Ph.D. in Electroacoustic Composition at NOVARS Research Centre of the University of Manchester. Her works include a wide range of interactive computer music compositions, and her research focusses on methodologies for interactive music-system designs and expressions. Currently she is an associate professor at the Department of Information Media, Hokkaido Information University in Ebetsu, Hokkaido.

### Hideaki ISOBE

is composer and media artist. In addition to his computer-based composition activities, he is the producer and performer of various other composers' electronic works. He has developed sensor-based electronic instruments as well performance aids, and conducted research and work creation at the NHK Electronic Music Studio. His major works have been performed in Japan, Greece, the Netherlands, Germany, Korea, and other countries.

### Justine GOUSSOT

is a multidisciplinary performer and choreographer. She holds a B.A. in pedagogy of contemporary dance from the School of Higher Education in Music and Dance in France. Furthermore, she studied the classical Indian dance form Kathak in Varanasi. Her company, La Lali cie, created in 2011, focusses on cross-disciplinary practice following a non-hierarchical approach. She has created as well as and participated collaboratively in the creation of works in the genres of Opera, music, choreographic and multidisciplinary productions, presented in national stages and international festivals in Greece, France, Switzerland, Sweden, India, USA, Spain, and Germany.

### Ioannis Zannos

has a background in music composition, ethnomusicology and interactive performance. He has worked as Director of the Music Technology and Documentation section at the State Institute for Music Research (S.I.M.) in Berlin, Germany, and Research Director at the Center for Research for Electronic Art Technology (CREATE) at the University of California, Santa Barbara. He teaches audio and interactive media arts at the Department of Audiovisual Arts of the Ionian University, Corfu. Since 2018 he focusses on telematic dance performance with a series of works between Greece, Japan and other countries.



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.