

In recent decades, the technical advances driven by the development of technology have had major consequences on our way of understanding and conceiving the world around us. One of the most complex issues in this new context is, unquestionably, the profound question about the relationship between the new technologies and our identity as human beings in the future. New technologies have opened up broad horizons for experimentation and innovation, and contemporary artists have inevitably echoed this context in their works.

Committed to fostering a dialogue between art, science, technology and society, the Telefónica Foundation has supported technological innovation related to art in the new media from the very beginning. Likewise, within a framework of the broadest discussion and debate about the possibilities of the new media, we have understood the need to reconsider spaces of art and creation in accordance with today's needs.

The term "artificial life", coined in 1987 at the Los Alamos Laboratory in New Mexico, certainly constitutes one of the most radical ideas of our times. Since then, some creators have used this concept to conceptualize through art the way technology and biology have become ever more indistinguishable in our culture, how machines are evolving towards human forms and humans towards mechanical forms.

The VIDA International Awards on Art and Artificial Life –in its 10th edition this year–arose as a way of channeling this discussion through creation. Alert to the technology debate, and aware that art is one of the most vivid expressions of our reality, the Telefónica Foundation started this project to create a platform for an emerging discipline that would address, in both form and content, one of the most complex issues facing our world.

Having given awards to 100 works, VIDA represents today an international fund reflecting the contemporary electronic art evolution in one of its most complex and stimulating facets. We hope the new challenges taken on VIDA 10th anniversary will continue to help establishing the art and artificial life disciplines as a reference point in both contemporary thinking and creativity in today's world.

Francisco Serrano, General Director of the Telefónica Foundation

ART AND ARTIFICIAL LIFE IN THE 10th EDITION OF VIDA INTERNATIONAL AWARDS, SPONSORED BY *FUNDACIÓN TELEFÓNICA*

Though art and science were inseparable in the past, nowadays you are unlikely to find contact between the two disciplines. One of the few places where this exchange happens in a fluid way is in the art of the new media. The creators working in this sector, also called electronic art, make works of art with technological means. They use technology to reflect on the present-day computerised society. *Fundación Telefónica*, since the outset, has sought to support art-related technological innovation and has therefore given close attention to the art produced by new media.

One of *Fundación Telefónica's* central projects is the *VIDA* competition, which this year celebrates its tenth anniversary. It is an international competition which rewards electronic works of art produced with artificial life technologies. Artificial life is an interdisciplinary science which studies and creates artificial systems by imitating the properties of living systems. Although the discipline may seem removed from our lives, much laboratory research on artificial life is very much present in everyday consumer products, such as the new children's electronic pets (Tamagotchi, Dogz, Catz and many more), video games with characters that evolve over time, or in intelligent interfaces for mobile telephones and other electronic devices which "learn" about the user.

The term "Artificial Life" was coined in 1987 in the Los Alamos laboratory in New Mexico under the auspices of a workshop set up by Christopher Langton. Since then, this discipline has used computer science to simulate living systems. Artificial life uses complex algorithms to create, for example, digital creatures which evolve in virtual spaces, or programme robots to have human reactions. A key concept of artificial life is that of "emerging behaviour", which refers to the kind of behaviour that emerges from an evolution of the original programme. The programmer runs the system, but from then on the system seems to take on a life of its own and evolves in an unpredictable way, just as a biological system would.

Artificial life is a multifaceted field which creators have been using artistically for fifteen years. The art of artificial life addresses the growing technologisation of reality, by producing creative works that seem to mutate, evolve and respond with a life of their own. An example of artificial life artistic work might be digital creatures that survive in a virtual environment. On the screen we can see how these creatures look for food, compete with other species in the virtual ecosystem, couple in order to have offspring and finally die.

Through these works of art, creators are raising important issues regarding our promiscuous relationship with technologies and our future identity as human beings. These artists are not seeking to create artefacts with a specific functionality, but to work conceptually, using art in order to reflect on how in our culture the technological and the biological are increasingly indistinguishable, a culture in which machines behave in an increasingly human way, and humans more mechanically. How far should human beings go in our technological absorption? When do we stop being human and become technological mechanisms? These artists take a stance before this new reality, an essential step

if in the future we really want to take control of the technological race instead of feeling that we are being borne along by a runaway horse.

A pioneer in this field, the VIDA competition has become an international reference point. As it is unique in the world, this competition has the great responsibility of giving form to an emerging discipline. The 100 award winners over the years not only represent a standard of excellence internationally but also constitute an inestimable collection documenting the evolution of electronic art in one of its most significant facets. In order to enhance its commitment in this task of promotion and documentation, *Fundación Telefónica* plans to create a Virtual Gallery which, transcending the boundaries of the traditional gallery, can house the winning works of past and future editions.

This year VIDA 10.0 is being held and, just as every year, it will host the most innovative artistic productions of artificial life. A prestigious international jury will meet the first week of November to carefully study the projects entered. The winning projects will be exhibited at the *Fundación Telefónica* stand in ARCO, the Contemporary Art Fair which takes place every February in Madrid. Coinciding with ARCO 2008, a commemorative exhibition of the tenth anniversary of VIDA will present a selection of the past award-winning works in the exhibition rooms of *Fundación Telefónica*. This exhibition (a pioneering one as it is the first exhibition which exclusively focuses on artificial life art), together with an International Forum which experts from all over the world will attend, will be a magnificent opportunity for the public to experience the enormous creative potential of one of the most surprising artistic manifestations currently on offer.

Over the last nine years, VIDA has displayed robots which choreograph their movements around the public, a screensaver which responds to the sounds around it, a mechanism which runs over our body and tickles us, a virtual ecosystem inhabited by creatures which the public creates and then contemplates as they fight for survival, plants which are watered in proportion to stock market fluctuations, a community of robot dogs which have been reprogrammed to act like hybrids between dogs and pigs or dogs and cats, etc. It remains to be seen how the projects selected this year in VIDA 10.0 will surprise us, make us laugh, or make us reflect on our everyday technological reality.

Daniel Canogar, Artistic Director of VIDA

ART EMBODIES A-LIFE: THE VIDA COMPETITION

Artificial Life (A-life) artworks hold a unique place in the artworld, one that has been largely mapped by the *VIDA* international competition through its annual recognition of outstanding works that are based on A-life. Works that have received awards since the competition began in 1999 (twenty-five prize-winning artworks and fifty-six honorary mentions) have gained viewer appreciation and popularity at the same level as any other kind of art. Yet these works define a territory of their own. A-life art is a synthesis of different cultural inputs: the technological buzz of the moment, ideas from research that are sometimes highly specialized, and whatever artistic strategies must be called upon to mould these diverse forces into an artifact that has both aesthetic power and social relevance.

There is no single feature that characterizes the uniqueness of A-life creativity. Rather, there is a set of characteristics, some of which will appear in any given work. For example, A-life artworks might have behaviours while other artworks don't; they are not static but dynamic, and may evolve over time in relation to their environment; or they might incorporate elements that are both natural and artificial, questioning the boundary between the living and non-living. These are A-life research concepts that, through A-life art, find their way to people's imaginations in a way that they otherwise could not, and in a form that allows them to be directly experienced and readily understood.

If labs are not a part of most people's everyday lives, many of the applications that arise from them and that are used in industry are: technologies developed in relation to A-life, Artificial Intelligence (AI) and robotics research [1] have become familiar to people in daily life through forms of entertainment, for example the virtual pet phenomenon (Tamagotchi, Dogz, Catz and other Petz, Seaman, Furby, AIBO) or virtual characters that "learn" through AI in video games, or in functional electronic interfaces such as bank machines and smart user interfaces for mobile communications technology. People bring such encounters from their everyday worlds into the gallery and into their experience of A-life artworks.

EVERYDAY TECHNOLOGIES

Art embodies A-life research in a way that connects it to everyday lived experience. Marcel Duchamp's revolutionary concept of the readymade particularly lends itself to creative A-life practices. [2] When he declared the famous urinal or bottle rack to be art works, Duchamp was asserting that the industrial connotations and everyday use-value of such objects determined their artistic life as readymades. Unlike the "objet trouvé" of the Surrealists, the insertion of a readymade into the art gallery was not a gesture intended to discover and amplify its hidden beauty, but to provoke an interest in the absurdity of institutionalized art preoccupied only with eternal values and blind to either current social conditions or the daily preoccupations of the vast majority of people. Since Duchamp and the ensuing dadist phenomenon turned the readymade into common artistic currency, gallery goers can immediately grasp the need to connect art to the social conditions of living. Several of the *VIDA* prizewinning works operate as readymades, alerting us to the nature and impact of the industrial objects that now permeate our lives: electronically-driven

gadgets that tend to take over rather than just extend our capabilities. They are substitutes for life processes, not just add-ons, which is why we have started to think of them as having some kind of life of their own. They present a challenge to our pre-existing notions of what is “human”, “natural” and “alive”.

Tickle (Netherlands, 1998, 2.0) by Erwin Driessens and María Verstappen is a small autonomous robot that walks on the human body to generate a pleasing tickling sensation. When it encounters a slope that is too steep, it will steer until a safe level is found and then continue on its way, behaviour that is implemented using a hardware-instantiated finite state machine. *Tickle* has qualities of the readymade in its bridging to the commodity fetishism that surrounds us. It reminds us that we fervently desire the gadgets that might bring us pleasure, especially if they are smart in their form of delivery.

The same artists made an installation called *Tickle Salon* (Netherlands, 2002, 5.0) that consists of a robot attached to the ceiling, and a bed standing on the floor. The interactant lies down on the bed. In between the bed and the ceiling is a suspended feeler, made of silky thread and a metal ball, whose movement is determined by sensor feedback from its collisions with the skin surface. As the robot explores, it gently strokes the surface of the body while at the same time creating and updating the shape of that body in its virtual imagination.

The two *Tickle* works suggest various kinds of everyday consumer items that could potentially be programmed for sensitivity to our needs, to ease our lives, entertain us, connect us socially, etc. In contrast, France Cadet’s installation *Dog [Lab]01* (France, 2003, 6.0) is an overt retooling of a commercial product, a classic readymade for our time in which Duchamp’s gesture that was rebuffed by the art world in 1917 – signing the urinal with the pseudonym R. Mutt to make the artwork *Fountain* – is now translated into the hacker strategy of reprogramming a consumer product. *Copycat*, *Dolly*, *GFP Puppy*, *Xenodog* and *Jellydoggy* are five transgenic and chimerical animals that have been transformed from robot dogs, all based on real cloning experiments. They retain the robot’s basic morphology, but with a bovine colour and horns, pork or other alien skin, bleating or meowing, all to express various mixes of “genetic” information that includes that of dog, cat, ewe, cow, sheep, pig and jellyfish. The technical method is to install a new chip and flash memory card into the robot so as to program the sixteen-motor drive for altered movement, sounds, the light of the eyes, and reading the various sensors.

A work with more literal readymade qualities in its adaptation of ordinary kitchen equipment is *Liveform: Telekinetics* or *LF:TK* (Canada/Germany, 2004, 8.0). This work usurps both the use value and brand value of commodities to generate pockets of collective, local, rather chaotic creation. Artists Jeff Mann and Michelle Terran build sensors and motors into cutlery, plates, bowls, scissors, corkscrews, etc. to endow them with highly animated expressiveness. These retrofitted items are used for multiple, physically separated dinner parties that are networked together, preferably by inhabiting the free wifi hotspots that now dot many cities: picnickers in one spot run custom software that collects sensor data from the gestures of eating and sends it live to identical objects in another location that could be on the other side of the world. In his *EX-DD-06* (USA/Taiwan, 2006, 9.0), Shih Chieh Huang uses very simple electronics, like light bulbs and TVs,

combined with gaudy inflatable plastic tentacles and lots of hanging wires to make a quasi-biological world that is both alien and everyday.

OTHER EMBODIMENTS

An A-life artwork has by definition an embodiment, a materialization that a viewer can perceive and respond to. *VIDA* has been open to many different kinds of embodiments, including forms that have often diverged quite radically from those found in the A-life research world. There, artificial entities with animal-like or human-like qualities are simulated in the form of pixel clusters on a screen, animated characters, or robots – or hybrids of these embodiments. *VIDA* has recognized many works that address A-life research not through its representational methods but through the broader cultural issues that it raises. Several *VIDA* works probe the intersections of biology and artificiality to reveal hidden suppositions about the technologization of life processes. Paul Vanouse's *Relative Velocity Inscription Device* (USA, 2002, 5.0) considers eugenics through the funny-sounding but troubling trope of a “race race”: he uses previously extracted and amplified DNA fragments from each of his parents, his sister and himself (who are a biracial family) to drive running-figure avatars in a real-time performance that runs for two to three days. *Novus Extinctus* (Spain, 2001, 4.0) by Transnational Temps (Andy Deck, Fred Adam, Verónica Perales) is an Internet artwork whose central message is that the expansion of human presence on the World Wide Web, measured via the number of domain names registered daily, climbs in a deadly parallel with the number of species that go extinct. The site has a strong element of marketing spoof as well, linking Latin species names to commercial sites like TigerDirect that use the names of exotic animals.

Death and the human desire for immortality are looked at in two very different ways in *Levántate* (Spain, 2002, 5.0) by Mariela Cádiz (with the collaboration of Kent Clelland) and *Concrete Music* (USA, 2003, 6.0) by Ethan Bordeaux, Ben Recht, Noah Vawter and Brian Whitman. *Levántate* confronts the viewer with an image of a female body in a perpetual state of “digital decomposition,” which is projected onto a sarcophagus. Viewers tend to cluster around this sculptural element as for a funerary ritual. In parallel there is a soundtrack of digitally decomposed voices in the space, which is continuously re-recorded and mixed with the voices of the audience, to haunting effect. In *Concrete Music*, immortality is both encapsulated and epitomized. Inside a concrete slab the artists have embedded hardware that supports a thirty-year song program. On startup, the system loads the thirty-year song program and executes it. From preset parameters, the song composes itself as it slowly drifts away from its base state by means of recursive remixing of its own flow. On each boot of the system, the song starts over at zero. So to hear it all the piece has to be powered up for the full thirty years, at which time the song will end.

AGENCY: ARTIFICIAL BUT ACTUAL

The longevity of *Concrete Music* aside, the swift obsolescence of electronically-run gizmos and their ubiquitousness in the world mean that, in one form or other, a lot of people are in constant negotiation with them. So the sense that these things have a kind of agency is a phenomenon now intuitively understood on a broad scale. As far back as the early 1980s, actor-network theory (ANT)

theorized that non-living but dynamic objects have the status of “actants.” ANT has spread throughout the academic world since its emergence from the discipline of science studies, so that the attribution of agency to non-living things is still much discussed in fields from information systems research to political science. In essence, ANT says that existence is about action rather than the intrinsic nature of a phenomenon or entity: all actants have a history, and it is only through their action in the world that they have an identity. Moreover, non-living actants carry the actions of the living: “I live in the midst of technical *delegates*; I am folded into nonhumans.” [3]. The attribution of agency to technical delegates is, in the contemporary world, both pervasive and preconscious, that is, it happens for most people spontaneously without thinking about it rationally. A-life artworks take up this complicated loop when the intentions and thought process of an artist are translated into action, and delegated to a dynamic system to live on in it as an event or interaction. The dynamic that the work presents to the viewer is the prompt, or cue, by means of which agency is attributed by the viewer to the non-human and non-living artwork.

A-life art is intensively engaged with this concept of artificial agency – how to elicit it for the viewer and how to establish imaginative and meaningful relationships with it.

Classic artificial agents in the art domain are those created by UK artists Jane Prophet and Gordon Selley in *TechnoSphere*, a real-time 3-D simulation of an environment populated by virtual creatures that was launched in 1995. *VIDA 2.0* awarded this project an honorary mention as a pioneering work. [4] The creatures were created by online users from a menu of body parts, and could eat, grow, compete, mate, produce offspring and of course die, all under the watch of their creator. *TechnoSphere* was online until 2002, by which time over a million creatures had been generated by users. In Haruki Nishijima’s *Remain in Light* (Japan, 1999, 4.0), artificial creatures are made by capturing sounds from the electromagnetic spectrum in the atmosphere (radio, cell phone, etc.), using an insect net that is really an antenna. The recorded sounds are entered into a computer so that their frequency can be correlated with a colour scheme. The “electronic insects” then float around in the form of a projection. When they hit the edge of the screen, where they tend to cluster when someone comes into the space, they emit their corresponding sound. Bits of sound data that float imperceptibly in urban space are given visible and audible insect-like behaviour, suggesting that they have swarm behaviour we just cannot detect.

Robots tend to foreground autonomous behaviours such as mobility and sensitivity to their environment, and to mimic the sensory responses of humans or animals. However, A-life robotic artworks are invariably different from those found in research, even if they investigate many of the same questions about agency and artificial embodiment. Unlike research robots that are studied to gain quantifiable data, robotic artworks call attention to relationships between robots and humans, whether those humans are the creators of a work or members of the public. It is not simply a question of objective or subjective points of view. It is a question of the robotic artist wanting to elicit narrative elements and affective responses that complicate a viewer’s response to the work. In the lab, those narratives may be present but they are set aside. For example, Bill Vorn and Louis-Phillipe Demers’ *Cour des miracles* (Canada, 1997, 2.0) presents thirty

robotic entities that each demonstrate a dysfunction, in a combination of physical and mental suffering, much like the cripples, beggars and criminals of the medieval "Court of Miracles." The robots show an unquestionable power in their abrasive clamour for attention, even with their very limited repertoire of movements and behaviours. France Cadet's retooled robots in *Dog [Lab]01* are replete with topical news stories and the wariness associated with potentially unregulated genetic engineering.

In the case of Carlos Corpa and Ana María García Serrano's *PaCo – Poeta Automático Callejero Online* (Spain, 2004, 7.0), the artists' concept is to explore the replacement of humans with machines. But here the machine is not designed as an improvement on human capacities, but is a wheelchair-bound robot that recites and prints out computer-generated poems. The robot holds out a "hand" that has the form of a coin box with a slot, so it clearly is invested with the persona of a beggar – rather like the robots of Vorn and Demers, but without an historical reference. Ken Feingold's *Head* (USA, 1999, 3.0), although it is not a robot but a realistic animatronic sculpture, considers the quest of AI to replicate human cognitive functions in artificial media, functions that are exemplified by listening and responding. The *Head* is bad at those activities, letting us know in its own circuitous way that cognition is embodied knowledge that does not work well when even partially disembodied.

Artificial agency holds another kind of fascination when it parallels investigations in biochemistry, where the line between natural and artificial methods of research is a thin one. "Autonomous agent" in the biochemical sense means the smallest organic unit that is self-sustaining and self-replicating – like a cell. But life at the cellular level is largely revealed when its dynamics are modeled using computing and digital imaging, because those dynamics are impossible to piece back together from information gleaned from isolated entities observed in a lab. [5]

Several works recognized by *VIDA* focus on agency as a function of systems that, like living cells, are always in process. Even if the mechanics, the physics, or the algorithms that generate the visible processes in these art works are not readily understood, viewers are invited to experience them as metaphorically alive. Scott Draves' *Bomb* (USA, 1994, 2.0) suggests the biochemical/biophysical definition of agency in its patterns of flow and connectivity. *Bomb* is an "eye candy" program of self-generating imagery generated through non-linear iterated systems, like video feedback. *Dripping Sounds* (Spain, 2003, 7.0) by Federico Muelas Romero is an image and sound generating apparatus that is always in flux, never repeating its sequences. It has a Dripping Machine where ink is dripped into water, disperses and then is optically projected, and a Sound Screen where the moving image projected on its surface is translated into sounds of varying pitch and frequency. Daniel Palacios Jimenez' *Waves* (Spain, 2006, 9.0) is based on a long piece of elastic string that twirls between two motorized chambers, to produce a sine-wave simulation when a viewer walks nearby.

BRIDGING WORLDS

A-life artworks, whether in a gallery setting or not, allow agency as a research hypotheses to be instantiated and tested outside of the lab. Even in research, the

concept of anthropomorphism has often been invoked to account for how agency is attributed. A-life art shows that, although anthropomorphism has common-sense appeal, it is much over-used by now and really does not explain very much. In particular, it assumes that attributing agency to something non-living is always the same kind of process that happens in the same way for everybody. Anthropomorphism is a useful idea if the uniqueness of each person's experience is also recognized. To accomplish the attribution of artificial agency, A-life artworks have to play with the viewer's state of mind and engage with her or his cognitive capacity to hold two simultaneous but contradictory ideas: people know rationally that they are anthropomorphizing the artwork, and at the same time they are willing to be completely overpowered by their sense of the piece as having its own autonomous behaviours and possibly even intentions.

A-life artworks that are interactive present a special case of how agency and autonomy are attributed, because the viewer (here, more accurately described as the interactant) is caught up in a direct experience of the work's dynamics, often involving an "entrainment" phase in which the interactant learns effective responses to the work's behaviours. Interpretation at a semiotic or conceptual level is not necessary. When an artist conceives of an interactive work, modes of contact between its programmed behaviours and the physical presence of the interactant are given great attention, because bridging the affective context of the interactant with the agent(s) in the work as well as the overall environment is a primary concern. For example, in each of the two *Tickle* works by Driessens and Verstappen, a strong sensory connection between the person and the machine is an understanding shared by all interactants, even if the experience itself is unique to a particular person. The sense of connection is even extended to observers who are watching the interaction.

Paula Gaetano Adi is a young Argentinian artist who explores the hallmark concepts of embodiment and autonomy, by reducing their overt features to bare essentials. Her robot is called *Alexitimia* (Argentina, 2006, 9.0), which is a term that means the incapacity to verbalize emotions. The robot is perversely minimal (a soft rubbery blob mounted on a low pedestal) and has no mobility or apparent articulators such as limb-like parts, sounds or lights that indicate responsiveness to its environment. Interactants have no explicit information about how to interact, but when they touch the object out of curiosity, *Alexitimia* "sweats": there are touch sensors embedded in its surface, and there is water in a tank hidden in the base of the work that runs out through small punctures in the latex skin. The minimalism in this work permits the interactant to recognize the instant that the sculpture responds, which is the instant of attributing agency to it, and also allows each interactant to realize that her/his performance with the work is a unique one.

The *Universal Whistling Machine* (Canada/USA, 2004, 7.0) is a wall-mounted interface that consists of a speaker, camera and microphone embedded in a neutral white surface. The U.W.M. senses the presence of living creatures in its vicinity and attracts them with a signature whistle. Given a response whistle, U.W.M. counters with its own composition, based on a time-frequency analysis of the original. The artists, Marc Böhlen and JT Rinker, prefer to install their devices in quiet, low-traffic spaces of exchange and transition such as restrooms, corridors, and elevator halls, so that people are caught by surprise by it. U.W.M.

shows how the transcultural and transtemporal character of whistling extends quite naturally to embrace the machine world. The agency of the machine and its initiatory role in eliciting the satisfaction of the whistle exchange are immediately understood.

In Ken Rinaldo's *Autopoiesis* (USA, 2000, 3.0) interactants walk among a group of fifteen robotic sound sculptures whose behaviour collectively changes over time. Each arm-like sculpture, suspended from the ceiling, can individually detect and respond to an interactant through smart sensor organization, moving its tip toward the person but never touching them. At the same time, the entire group sends its data to a central state controller for coordination of group behaviour. The interactant intuitively grasps that the behaviour of the sculptures is more agitated, complex and probing when a person is present, while it is more serene and in a state of "waiting" when being observed from the outside. At the tip of two of the arms, lipstick cameras project what they see onto the walls of the space, giving the interactant a sense of being observed as much as they are observing.

In A-life artworks, the artistry of materials, aesthetics and concepts is invoked as the means by which participants are induced into relationships with experimental systems and apparatuses. The human must establish a relationship with the technological system, rather than simply controlling it, and the system itself can suggest interpretations of what it is doing and how it is running. If there is any single goal for these strategies, it is awareness of the elicited relationships as social exchanges, with an increased consciousness of one's biases and experience (from novice to expert) upon entering and leaving the exchange. This builds a compelling case for the co-evolution of humans and our technologies: both the humans and the machines become actants who have agency and inform each other, resulting in composite societies of agents that include both natural and artificial members.

Even if A-life artists don't explicitly engage the research areas in AI and A-life that investigate social intelligence in mixed populations of human and artificial agents, one phenomenon that has emerged in the *VIDA* artworks is the creation of social worlds in which the process of networked computation itself has its own kind of agency. *Electric Sheep* (USA, 1999, 4.0), also by Scott Draves, generates a network of contributor clients who together build MPEGs in the form of "animated fractal flames." These can subsequently be downloaded and viewed as continuously changing abstract image sequences. *Electric Sheep* allows us to think about how a creative social grouping in the digital commons can make a shared visual space for a collective virtual life-form. Stanza's *The Central City* (UK, 1997-2003, 6.0) gives us an interactive representation of such networks as they might be implanted in urban locales, where they grow organically and bleed into the city. Using generative processes, this work visually and sonically interconnects information networks (including surveillance systems) with urban networks (blocks of streets, grids of services, etc.) to make a constantly transmuted environment. LF:TK's networked dinner parties also intervene as actants by calling for new social protocols that participants explore.

In the development and study of artificial social intelligence, empathy is a key concept because it links emotion and cognition together in a way that involves

making a mental model of someone else's state of mind. It is an instance of embodied cognition. Our ability to attribute empathy to an A-life agent as a function of its design generates a positive feedback loop, because it elicits a corresponding state in the person interacting with that agent and thereby calls upon empathy as a framework for interpreting the whole exchange that takes place. This is an example of social learning, and it occurs in several of the *VIDA* works. For instance, we could say that the robot arm holding the lit candle in Erik Olofsen's *Divine Methods/Hidden Motives* (Netherlands, 2005, 8.0) exhibits empathy for the believer who is determined to hold onto her/his belief. Or the empathy could be read as directed toward the skeptic who sees the contortions that believing requires. Either way, the work draws out empathy from a viewer towards itself and builds a powerful empathetic exchange that synthesizes knowing and feeling. *Head* and *Cour des Miracles* are other works that elicit empathy and flesh out a communicative exchange that is not controlled by either humans or artificial entities, but lies in a space between the beings involved.

ETHOS/RESPONSE

Because of the lifelike qualities of embodiment and behaviour that A-life researchers pursue as a guiding principle, artifacts from A-life research as well as A-life artworks can be said to embody technology itself – at least in psychiatrist and cultural theorist Jeanne Randolph's definition of technology as a repository of our preconscious desires and fears. Her *technological ethos* is sited "in our preconscious, making its judgments about what we will value, what we will not value, what we think we are seeing, what we feel we are seeing." [6] And those embedded values, including quantification, efficiency and economy of means, tend to be highly instrumental. Such deep-seated attitudes about technology are invoked when A-life artworks are deployed or enacted by their audience. This accounts for why inefficient, dysfunctional forms of technology have held so much appeal for artists.

Because works that are autonomous artificial agents become metonyms for technology itself (the part stands for the whole), then their dysfunctionality or defiance of instrumental purpose truly stands in protest against the instrumental values we have invested in technology. Willy LeMaitre and Eric Rosenzweig's *The Appearance Machine* (Canada/USA, 1997, 3.0) is an accident-generating machine premised on the collection of detritus from the streets of New York City, where it is physically located. The machine's perpetual and solitary activity of spinning bits of garbage for image analysis outputs a live video/audio stream that is networked to a remote site. The resulting display is a highly tongue-in-cheek subversion of the industrial entertainment complex. In contrast, *AP0201* (UK, 2004, 8.0) by Martin Howse and Jonathan Kemp is meant to be installed in harsh, preferably remote conditions where its key relationship is with the environment. Three constructions of small solar panels mounted on upright metal studs, three small LCD screens, plus electronics for wireless communication, constitute the parts of *AP0201*. There is no useful data that an observer can glean from these "self-display devices" that look as if they should be doing important work, whether meteorological or military. They simply show the code that they are processing as they pick up data from their surroundings, code that is then modified and shared among them. *Spore 1.1* (USA, 2004, 7.0) by S.W.A.M.P. (Douglas Easterly / Matt Kenyon) uses a rubber tree plant purchased from Home

Depot that is connected to the Internet via a wireless connection, and programmed with open source software to weekly check the value of Home Depot's stock on Yahoo. Through a mechanized watering system, the plant gets watered if share values are up and suffers drought if the stock goes down. If the plant dies, it goes back to the store under its one-year guarantee and is replaced by a new one – consumer protection at its ironic best.

This is not to say that the opposite holds true, that “functional” A-life artworks (or A-life research artifacts for that matter) uphold our preconscious, irrationally idealized expectations of technology. Artists who study, collaborate with or otherwise derive their ideas from research are working more in parallel with technological developments, but usually ironically and in the DIY mode of art practice that gives ordinary people entry points to the technology.

These are all areas where we can readily see the richness in the territory of A-life art. And it isn't just a one-way street: the A-life research community has become interested in A-life artists over the past few decades, precisely because of their deployment of research concepts in public space. Their artworks call attention to the role of the “participant subject,” and the recognition that one of those subjects is the researcher her or himself – albeit an expert one rather than a novice. A-life artworks can explicitly explore the boundary between the researcher and the subjects of the experiment: “This researcher will have to allow for – perhaps even explore – other emotions than those of the ideal distanced witness.” [7] This kind of shift in thinking and the exchange of interests and working methods in general, continues to be one of the most fruitful areas of art and science crossover. As it enters its tenth year of life, the *VIDA* competition continues to define the characteristics that make A-life art distinct and interesting to a new generation of both artists and gallery goers.

Nell Tenhaaf

References and Notes:

[1] A-life can be said to embody AI, with robotics a particular hardware form of embodiment. This thinking follows from Rodney Brooks' Embodied AI, based on principles of subsumption architecture for robotics (layers of simple behaviours that lead to complex behaviour). Specific concepts of embodiment pervade A-life and AI, for example Justine Cassell's Embodied Conversational Agent (ECA), which is a virtual human capable of interacting with humans using both language and nonverbal behavior.

[2] I previously have proposed that biology operates as a readymade in A-life research and artworks. See "As Art is Lifelike: Evolution, Art, and The Readymade" in *Leonardo*, Vol. 31, No. 5, 1998, pp. 397-404.

[3] Bruno Latour, *Pandora's Hope* (Cambridge, MA: Harvard University Press, 1999), p. 189.

[4] There have been five special prizes given over the years, for pioneering work in A-life art, innovation in A-life research, and special mentions of the jury. Note also that fifteen incentive awards for new production to artists residing in Iberoamerica (Spain, Portugal and Latin America) have been awarded, beginning with *Vida* 4.0 in 2001.

[5] See Stuart A. Kauffman, *The Origins of Order: Self-Organization and Selection in Evolution* (New York: Oxford University Press, 1993).

[6] Jeanne Randolph, *Psychoanalysis & Synchronized Swimming and other writings on art* (Toronto: YYZ Books, 1991).

[7] Lars Risan, "Why are there so few biologists here? – Artificial Life as a theoretical biology of artistry" In *Proceedings of the Fourth European Conference on Artificial Life*, 1997.

WINNERS OF THE INTERNATIONAL VIDA AWARD (First, Second and Third Prize)

WINNERS OF VIDA 2.0

SHARED FIRST AND SECOND PRIZES

Bill Vorn and Louis-Philippe Demers

La cour des miracles

Canada

In medieval cities, the *cour des miracles* was the meeting place for crippled people, beggars and criminals where all their defects would miraculously vanish. This work constitutes an eco-system of 30 robots who respond to environmental stimuli by generating light, sound and violent movements. Eschewing anthropomorphic or zoomorphic simulations, these foot-dragging, tumbling or limping androids seek to be expressions of pain and suffering. Demers' and Vorn's aim is not only to make the display interactive – the visitor touches a sensor and the robot moves – but to achieve a reactive whole: it should respond in different ways to the presence of human beings and the presence of other machines simulating a sort of false spontaneity.

Biography

Louis-Philippe Demers and Bill Vorn use robotics and multimedia to investigate life in both matter and intelligent environments. They present their robotic machines not as specialized virtuoso automatons, but as expressive, animated works of art. Moreover, they explore the reformulation of applications of light and sound by stimulating organic and metabolic functions and creating dynamic virtual architectures.

Erwin Driessens and María Verstappen

Tickle

The Netherlands

Tickle is a small, autonomous robot who walks on the human body, creating a pleasant tickling sensation. *Tickle* is equipped with four sensors capable of detecting its inclination against the horizontal plane. Motors for traction to the right or left enable it to move in those directions and go backwards if it encounters a slope that is too steep.

Biography

Graduates for the State Academy of Fine Arts of Amsterdam in 1991 and the Academy of Fine Arts of Maastricht in 1987. Some of their most important collective exhibitions: "Organic," Palais des Arts, Toulouse (1998), "Gallery Nouvelles Images", The Hague (1998), "MU", Arti et Amicitiae, Amsterdam (1997). Some of their most important individual exhibitions: "Morphotheque #10", Galerie Carre Rouge, Geneva (1998), "Rolling Eyes," Museum Van Nagsael, Rotterdam (1997), Galerie Le Sous Sol, Paris (1997), Optica, Montreal (1995), "Exhibition," Museum Fodor, Amsterdam (1990).

THIRD PRIZE

Scott Draves
Bomb
United States

Bomb is an open-source software system that produces “organic visual music”: images are generated by playing musical works in real time. A visual generation program creates a constant flow of images that correspond to the sound. The result is a type of artificial life. *Bomb* sets aside static, repetitive and predictable behavior in favor of a simulation in constant evolution. The colors – which are derived algorithmically from scanned photographs of natural landscapes or well-known works of art – the shapes and movement mutate towards new versions that can be used and freely changed by artists, programmers or users at large.

Biography

Mathematician and Doctor in Information Technology from Carnegie Mellon University with a thesis on metaprogramming for processing in media, his first series of images was created in 1993 in Japan. The first version of *Bomb* was launched in 1994, and the project has continued since then. In August 1998 he passed his twentieth revision and is now presenting two active lines of growth (Mac and Linux versions).

WINNERS OF VIDA 3.0

FIRST PRIZE

Ken Rinaldo
Autopoiesis
United States

Autopoiesis is comprised of fifteen robotic sculptures made of vine branches. The work as a whole responds to the presence of the observer with movements and sounds, using smart sensors to detect the location of the spectator. An exchange of data between the fifteen robotic sculptures creates a collective behavior in constant evolution, where the display and the spectator interact in a reciprocal manner. The interface and the evolution of the system contribute to a powerful sculptural aesthetic in which the spectator affects the behavior of the work and vice versa.

Biography

Ken Rinaldo is an interdisciplinary artist who works with robotic installations to search for the intersection and synthesis of our natural and technological culture. Seamless integration of electro-mechanical elements and organic elements confirms the confluence and parallel evolution of these cultures, which is inspired by the emerging properties of live systems and techniques of artificial life. At present, he is the emeritus director of the Art and Technology program at Ohio State University, having directed a number of exhibitions on this theme, and his work has found a place in collections such as that of the Chicago Art Institute or the Siggraph of Los Angeles.

SECOND PRIZE

Willy LeMaitre and Eric Rosenveig
The Appearance Machine
Canada, United States

The Appearance Machine is an industrial complex for the transformation of inputs – i.e., the waste generated in a local neighborhood – into outputs of a visual nature. It is a synesthetic system (because it appeals to the senses of sight and sound) that constantly builds a sonic and visual space fed by trash. The machine transforms refuse into a flow of live audio and video signals streamed over the Internet to spectators.

Biography

With a background in painting (Le Maitre) and musical improvisation (Rosenzveig), their collaboration has given rise to time-based works that are not clearly imagery or merely sound, but which function in a liminal manner between the two media to create a third hybrid. In the midst of an existence of spectacle, without wishing to accept mediated realities, the artists create works that serve to elucidate and show the motives and laws of our system and our technologies, making them serve our needs, in play and in freeing the imagination.

THIRD PRIZE

Ken Feingold
Head
United States

Faced with a science and industry that pursues the biggest, the best and the fastest, art has an ever more crucial role: to offer a privileged space for reflection, questioning, and the probing of the irrational and the cultivation of doubt. Creation within the artificial life of humanoid agents is motivated by the desire to optimize human simulation, to generate doubles of human beings to make our lives easier. But with his robotic *Head*, Ken Feingold seeks to explore the paradoxes of non-communication. The spectator can ask the head a question, but the answer is unpredictable; the robot's answer makes no sense, although it is not entirely unrelated to the question. *Head* makes us doubt the coherence of the dialogues with others that we usually see as normal and natural. If there is finally real communication, to what extent is it the result of a coincidence?

Biography

In the past decade, Ken Feingold has achieved recognition for his innovative work in the field of interactive art. He has given classes in the University of Princeton and his works have been selected for the permanent collections of the Museum of Modern Art of New York, the Centre Georges Pompidou of Paris, the ZKM Center of Art and Media in Karlsruhe and others.

WINNERS OF VIDA 4.0

SHARED FIRST PRIZE

Scott Draves
Electric Sheep
United States

Electric Sheep, named after the famous novel by Philip K. Dick *Do Androids Dream of Electric Sheep?* seeks to make real the collective dream of sleeping computers. *Electric Sheep* is actually a screen saver where we see fractal animations the artist calls “sheep.” These sheep have been generated through use of the shared space of a number of PCs online, with the P2P technology commonly used today to download digital files. Users can download the herd of sheep at any time and witness the birth of new ones in a permanent digital game. The principle of artificial life in this work operates effectively both at the metaphorical level and in the design of the software: generative algorithms – which are mainly for artificial life – create the digital herd. This part is strongly influenced by the open-source software movement as an antidote to the commodification of information that predominates in the market. Many “shepherds” have already activated this new digital community.

Biography

Scott Draves, alias Spot, started codifying non-linear systems in his freshman year in Mathematics at Brown University. In 1992, while working as an intern at NTT Data in Tokyo, he created the first versions of a fractal flame and fuse algorithms. The software was published as open source, together with high resolution sample images. In 1993 he received an honorable mention in the Ars Electronica contest for Flame#149 and in 1995 he began to develop Bomb, which won third place in Vida 2.0. He has devoted himself to the creation of startups such as the Transmeta Corporation and later Fastforward Networks, which was acquired by Inktomi.

Haruki Nishijima
Remain in light
Japan

We are surrounded by electro-magnetic waves. Wireless transmissions are creating a dense fabric around us, a communicative network we will never see. The Japanese artist Haruki Nishijima has managed to visually depict these waves around us. In his installation, the user becomes an entomologist hunting for sounds, armed with earphones, a backpack built like traditional wooden boxes of naturalists and a net that serves as an antenna. When walking around the city, the user records fragments of imperceptible sounds such as those issued by mobile phones. In the exhibition room, the box recording the sounds opens up to be seen, and it is connected to a computer that transforms acoustic sounds into points of light that resemble spotlights projected on screens made of the same material used for mosquito nets. When the public approaches the projection screen, the points of light scatter, and when they bounce against the edges of the screen they make sounds. This poetic installation connects our urban soundscape with an imaginary ecology.

Biography

Haruki Nishijima has a master’s degree in mural painting from the National University of Fine Arts of Tokyo. Since 1999, he has been a student of IAMAS, the International Academy of Media Arts and Science. He has shown his work in a number of exhibitions,

mainly in Japan. His work, *Remain in light*, was nominated for the Ars Electrónica in 2001.

THIRD PRIZE

Transnational Temps: Andy Deck, Fred Adam, Verónica Perales

Novus extinctus

Spain

The key idea and message of *Novus Extinctus* is that the expansion of the human presence in the World Wide Web is parallel to the shocking loss of biodiversity in habitats in the real world today: the number of domain names registered in the web increases every day, while the list of extinguished species is also growing. *Novus Extinctus* is a website in which the domain names are associated to names of species in Latin. When someone selects a domain name and processes it, a link appears to the real sites of animals, such as TigerDirect.com. The socio-political shrewdness in this work is summed up in the statement by the artists that the growing bank of genetic codes – as in the Human Genome Project – cannot in any way compensate for the loss of species. The piece rightly attacks the idea that the computer code and the genetic code are in some way interchangeable, and it reminds us that a simple idea can become a dangerous idea.

Biography

Transnational Temps was born in June 2001, born in the collaboration on the net art project *Novus Extinctus* of the artists Andy Deck, Fred Adam and Verónica Perales. At the time, Transnational Temps was emblematic of a very definite attitude towards the global communications network. It became the name of a collective of variable composition, under a basic common denominator: respect for the biosphere as a living organization and use of technological advances to boost knowledge of our natural surroundings.

WINNERS OF VIDA 5.0

FIRST PRIZE

Erwin Driessens and Maria Verstappen

Tickle Saloon

Netherlands

Tickle Salon combines a significant technical achievement with an elegant concept, a touch interface and subtle irony. The apparatus reminds one of a torture machine described by Kafka in *In the Penal Colony*, although in this case the function is more of giving pleasure than pain. The “user” takes off all his/her clothes and lies down on a massage stretcher. A light metal ball that can move in three dimensions traces and follows the outline of the nude body. The pressure of the metal on the skin is always soft, owing to a simple reaction sensor. At the same time, the mechanism creates a three-dimensional model of the user, thus allowing for soft caresses. This double direction response creates a convincing sensation that the machine is feeling the person while the person is, in fact, feeling the machine. The process of watching how the image of a body is synthesised – curve by curve – is only a bit less pleasant than receiving a massage from the machine. The artists assert, with humor, that the problem with human caresses is that we eventually tire. Although it is fully functional, the work is also paradoxical, offering intimacy without empathy.

Biography

Graduates from State Academy of Fine Arts of Amsterdam in 1991 and the Academy of Fine Arts of Maastricht in 1987. Some of their most significant collective exhibitions: "Organic," Palais des Arts, Toulouse (1998), "Gallery Nouvelles Images," The Hague (1998), "MU," Arti et Amicitiae, Amsterdam (1997). The following individual exhibitions are noteworthy: "Morphotheque #10," Galerie Carre Rouge, Geneva (1998), "Rolling Eyes," Museum Van Nagsael, Rotterdam (1997), Galerie Le Sous Sol, Paris (1997), Optica, Montreal (1995), "Exhibition," Museum Fodor, Amsterdam (1990).

SECOND PRIZE EX AEQUO

Mariela Cádiz, with the collaboration of Kent Clelland

Levántate

Spain/ United States

Levántate is an intimate installation that invites the spectator to engage in metaphysical thought. When entering this dark room, the public encounters a phantasmagorical image of a human body projected horizontally from the ceiling. A white sculpture in form of a sarcophagus serves as a screen showing the blinking image of a prone body in the throes of a constant process of digital decomposition. The iconography of the female body reminds us of diagnostic technologies for scientific viewing of the human body, or images of thermodynamic energy fields. The sound component of the installation is a constantly changing, algorithmic musical composition of digitally broken down voices. A microphone in the room picks up the whispers and sounds created by the public while they are watching the installation. These verbal resonances are recycled through an interactive feedback system, thus incorporating not only the musical composition of the installation itself, but also the image projected. Cloning, genetic engineering, and medical technologies for assisted life are examples of how today's boundaries between life and death are complex. The title of the installation - *Levántate*, or Arise - certainly has biblical allusions, only that now, the miracle is technology.

Biography

Kent Clelland is a composer and software developer audio/media. Focused on the role of computers in live productions, Clelland's music and experiments can include anything from soundtracks for avant-garde film shorts to dance production. Clelland's interest in the correspondence between software development and the architectonic aspects of musical structure is fused in his way of understanding software as a compositional process. His latest music program for computer, NI-Spektral Delay, won in 2002 the price of the international press for musical instruments.

Mariela Cádiz began to work in the field of electronic art at the Cinema and Video School of the California Institute of the Arts (CalArts). Since then, she has worked in video-art, video-installations and digital post-production. He was worked with the image artist Denis Lelong and the composer Kent Clelland on a number of occasions, and her most important work in collaboration, a piece of video-art called Alethéia has received a several international prizes and has been shown all over the world.

Paul Vanouse

The Relative Velocity Inscription Device

United States

In 1929, the sociologist Charles B. Davenport published *Race Crossing in Jamaica*, the results of a research project that took three years. At that time, the new science of human genetics was powerfully determined by biology and eugenics. Based on the ideas of this era and using the most modern technologies, the artist Paul Vanouse presents the “race race,” with his *Relative Velocity Inscription Device*. The genes responsible for skin color are extracted from a Jamaican descendent of a “bi-racial” family (Vanouse’s own family) and they are made to participate in a race on the gel used to separate genes. What gene will win? The gene of his “black” mother, or the gene of his “white” father? In this work, the gene becomes the journey of each individual as represented in the image of a runner going around the screen. The combination of a scientific experiment and an interface like that of a game, along with the analysis of a historical and social context, shows the absurdity of eugenics and reminds us with critical irony of the social problems posed by genetic engineering technology.

Biography

Paul Vanouse has worked in emerging technology media since 1990, critically studying the areas where major science and popular culture intersect. Vanouse is an Associate Professor of Art at SUNY and a member of the research department of the Studio for Creative Inquiry at Carnegie Mellon University. Although Vanouse generally designs his work for public spaces, he has also exhibited in museums like the Carnegie Museum of Art and the Andy Warhol Museum of Pittsburgh, Walker Art Center of Minneapolis and the Louvre of Paris.

WINNERS OF VIDA 6.0

SHARED FIRST PRIZE

France Cadet

Dog[Lab]01

France

One of the most disquieting things about molecular biology is its capacity to manipulate behavior. Many experiments have shown that the behavior of one animal can be transferred to another. For example, in 1999 neuroscientists modified a mouse by inserting the gene of a prairie dog, an animal known for its loyalty and sociability. The mouse, a solitary animal, began to show the gregarious social behavior of the prairie dog. The Cadet laboratory dog project is a monstrous hybrid that merges children’s toys, electronics and social and political issues. Cadet has dissected several robot dogs, reassembled them by creating special shapes for them and reprogramming them with surprising behaviors. His new dogs are the sum of genetically manipulated animals, Frankenstein-like chimeras made of plastic. A half-dog half-cat wags its tail in a friendly way and looks like a cat. A dog behaving like a cow is prone to contract mad-cow disease, moaning like a newborn when his back legs fail him and he falls. Cadet’s work reminds us that the closer robots come to being lifelike, the greater is the risk they will suffer from disease and neuroses.

Biography

France Cadet is an artist whose work poses questions on diverse aspects and contemporary debates of science: the danger of accidents, the observation of animal and

human behavior and the artificialization of life and the perils of cloning. He gives a number of courses on robotics and works as a professor in the School of Fine Arts of Artes of Aix-en-Provence.

Stanza
The Central City
United Kingdom

This artistic work, which was in the making for four years, is a stunning collection of interconnected environments created by generative processes. The main theme is urban environments, which leads to a huge website of linked spaces. The user controls images from live webcams with pre-recorded sounds to make spaces that fragment and restore themselves in real time. The nature of the city in continuous transformation is clear in the continuous flow of its various elements: streets and buildings that seem to change in visual compositions that remind us of the avant-garde documentary by Dziga Vertov *The Man With the Movie Camera*. On the basis of a series of recognizable images, which can be either pre-recorded or live, spectators can modify the images or alter the sounds algorithmically. Through these processes, well organized cities with a nearly grid-like structure are plunged into disorder. The user is compelled to take on the role of a painter faced with the transmutation of images, thus producing a subtle and ironic convergence of art and urbanism.

Biography

Stanza works with net art, multimedia and electronic music. His work crosses the boundaries between art, technology and science. Some of the pieces are adapted for use as in the form of installations and many works allow for participation of the public as a creative user. Many of these online projects have been invited to participate in digital festivals throughout the world, receiving awards like the Senef Grand Prix, Korea 2002, the first prize in Links Oporto 2001 and the Cynet Art 2000 in Dresden. His most recent exhibitions include the Biennale de Sao Paulo, with the theme of the metropolis in Brazil, Immedia USA and the Tamayo Museum of Contemporary Art in Mexico.

THIRD PRIZE

Ethan Bordeaux, Ben Recht, Noah Vawter and Brian Whitman
Concrete Music
United States

The *Concrete Music* project brings a song to life. The musical composition, instead of being recorded for eternity on a CD to sound the same way every time we hit the play button, is under constant evolution. To achieve this, the creators used a music processor, a code of recursive algorithms robust enough to guarantee use for 30 years and a synthesizer able to create compositions in perpetual evolution. Beginning from the original tone, texture, rhythm and time duration, the song composes itself and slowly moves away from its original structure. It would seem to be a floating composition, where only time will tell what the final result will be. *Concrete Music* also has a sculptural component: the generator of algorithmic music has been buried in a cement block. This surprising shell would seem to ensure its existence into the future, as if it were a time capsule that might be found and listened to in the future. With this sound sculpture, the song takes on artificial life and resists death. *Concrete Music* brings to life one of human beings' fondest desires: to ensure through time, while also giving a tip of the cap to the "musique concrete" of the 50's.

Biography

The DSP Music Syndicate is a group of artists, researchers and activists devoted to modifying the near future of music through experiments on powerful portable sound systems and musical interfaces. They are now working on "Chicle," a small music box with batteries, made of consumer hardware that can be found in stores at the price of a CD but which allows for distribution of algorithmic, generative and interactive music. The group works in the Boston, Massachusetts area.

WINNERS OF VIDA 7.0

SHARED FIRST PRIZE

S.W.A.M.P: Douglas Easterly, Matt Kenyon

Spore 1.1

United States

Spore 1.1 displays in ironic form the artificial conditions of our most immediate surroundings by linking the influences of the market with our eco-system. The artist bought a plant in at Home Depot store. Spore places the plant in a mechanized installation with a wireless connection to the Internet and programmed with open-source software. The installation receives from the net the share listings of Home Depot on the stock exchanges and activates an irrigation mechanism: if the company's stock is doing well on the market, the plant receives water. Home Depot guarantees the life of the plant for a year, so if it dies because of a a low or high share price, it has to be replaced by the company.

Biography

Douglas Easterly Matt Kenyon are the co-founders of S.W.A.M.P (Studies of Work Atmospheres and Mass Production). Easterly focuses on the convergence of art, new technologies and popular culture. Most of his recent work has involved vestible computing and robotics technologies as a means for engaging in social criticism. Matt is a professor of new media and 3D design, and his line of investigation as an artist is to seek out creativity in cultural elements that are inherently anti-creative

Marc Böhlen, JT Rinker

Universal Whistling Machine

Canada

For hundreds of years, scientists have tried to design machines that could talk and understand human language. The famous automaton of the seventeenth century, the Turkish chess player created by Baron von Kempfer, bested some of the finest chess players in Europe. Today, a customer service phone call from many company often involves talking to a synthetic automated machine, generally with the high-pitched voice of a woman. These machines, in turn, do not understand more than a few words because language, like many other aspects of human beings, is complicated to process. The artists Marc Böhlen and J.T. Rinker have worked on developing a communications system that computers will finally be able to understand: the *Universal Whistling Machine*, a reader of whistles based on tones. Using advanced computing for signals processing – similar to the chips in mobile phones - the system reads and answers human or even animal whistles, like those of a parrot, for example. Over time, it creates a database for each whistle it has heard, increasing its vocabulary and scope. What seems to be a simple process at first, becomes a technological mockingbird seeking to communicate with the outside world.

Biography

Marc Böhlen combines the analytic techniques which are common to different kinds of engineering with the historical grounding native to the humanities, thus producing a type of practical philosophy of daily existence in light of the limitations of automation technologies. Marc has also given lectures and displayed works in spaces such as the Digital Salon of New York, the Warhol Museum, AAAI, CHI, ACM and IEEE.

J.T. Rinker is a doctoral candidate in Musical Composition at the University of Buffalo in the area of acoustic and electro-acoustic composition. His interest in performance/interactive electronic installations and audio signal processing in real time has led him to broaden his field of investigation to mechanical visions and the art of robotics.

SHARED THIRD PRIZE

Federico Muelas Romero

Dripping Sounds

Spain

Dripping Sounds is a sound and visual installation in which the evolving movement of drops of ink expanding in the water determines the sound heard in the space. It is an attempt to establish correspondences between the diverse messages we perceive through our senses and to understand chaos as the impossibility of comprehending the underlying order of nature. An ink dripping system drops ink into the water, generating aesthetic forms that transform in the liquid medium until, changing their colours, the cycle begins again. The visual field is comprised of 20 photosensitive sensors that translate the movement of the shapes into independent sounds, giving the sensation of an orchestra of electroacoustic instruments. Underlying the work of Federico Muelas there is an obsessive intentionality to disarticulate the reality of the world that surrounds him.

Biography

Federico Muelas is a digital artist residing in New York. Founder of the D2 team, in 2002 he completed a master's course in digital art at New York's School of Visual Arts, where he specialised in computer-aided installations. Given his training in both traditional artistic techniques and applied technology in new artistic media, his work ranges from audio-visual pieces to kinetic sculptures and complex installation projects incorporating cutting-edge technology. Since 1997 his work has been exhibited and has received awards in Europe, United States and South America, and he has recently been awarded the New York Foundation for the Arts' prestigious scholarship for digital art.

Carlos Corpa and Ana María García Serrano

PaCo-Poeta Automático Callejero Online

Spain

A robot, made up of waste material and incapable of walking, moves slowly in a wheelchair in search of humans from whom to beg money in exchange for a "mechanical" poem. Attached to its arm it has a money box that it shakes in front of the "customer" demanding a response. If anyone puts a coin in, it reads a poem and then prints it out on the printer installed in its chest as endorsement to the transaction. Do

we feel more inclined to give money to a machine that spouts poetry than to the person this machine replaces? Do we feel sorry for it or does it attract and entertain us? The software in this project has been created by a research group from the Polytechnic University of Madrid, specialists in automatic natural language processing and assisted decision-making systems.

Biography

Ana M. García-Serrano, is a mathematician specialised in computer science. In 1987 she obtained her doctorate in this field and is an associate professor at the Department of Artificial Intelligence at the Polytechnic University of Madrid's School of Computer Science. She directs the ISYS, Intelligent System Research Group and is Deputy Chair of the Spanish Artificial Intelligence Society (AEPIA). Her field of interest is centred on natural language processing, among others.

Carlos Corpa is the author of a series of "humanised machines" that attempt to evoke human behaviour such as sex, gestation and birth, or education and art (painting, music and poetry). He was invited to participate in "AERONEF Spectacles: The parallel world robots! -50°//N" in Lille, organised as part of the European Capital 2004 events. In 2003, he toured France with "Machina Artis 3.0", taking part in the EXIT (Creteil-Paris) and VIA (Maubeuge) Festivals. In 2002 he collaborated with Amorphics NY in the construction of "Fetus to man" and exhibited "Machina Artis 3.0" in the Cyberia group.

WINNERS OF VIDA 8.0

FIRST PRIZE

Martin Howse, Jonathan Kemp
APO201
United Kingdom

The Southern California desert is a surrealistic landscape of military bombing ranges and toxic waste, beautiful vistas and endangered species, which now also has three quite peculiar artificial life entities. Artists Martin Howse and Jonathan Kemp constructed these austere, semi-official looking devices in a research station belonging to the state's Land Use Centre. In this arid landscape, Howse and Kemp structured what could be confused with meteorological stations, but which are, in fact, much more ambiguous devices: they capture and store solar energy, they communicate with each other via wireless connections, they listen to the military jets, the birds and the wind, and they constantly modify their own codes. Their small screens display indecipherable messages and we have no way of accessing their processing systems or their conversation. Their function is totally incomprehensible, but nevertheless they emanate a kind of technical authority. Their aspect constitutes a challenge to the self-importance of mankind, which always seeks specific gain from its technological artefacts.

Biography

Martín Howse is an artist, programmer, theorist and film-maker. In 1998 he founded AP (Artificial Paradises) to research the future development of technological-artistic systems using new media and functions in the fields of software and hardware, as well as to analyse their repercussion in a more ample political arena. Martin Howse has performed and collaborated internationally with modified software and hardware designed to process and generate information and codes. He writes regularly for GNU/Linux/free software.

Jonathan Kemp, trained in philosophy, has taken part and collaborated in multidisciplinary projects in areas that range from art, theory and design to the sciences. He has exhibited and performed in Europe and the United States and has held residencies in SCI-art (Germany and Spain). Since 2001 he has collaborated with Martin Howse in AP projects.

SECOND PRIZE

Michelle Teran, Jeff Mann
LIVEFORM: TELEKINETICS (LF:TK)
Germany/Canada

Corkscrews that whirl and spin; toasters that keep time with prosthetic arms comprised of knives and forks; tea strainers that provide harmonic accompaniment, opening and closing their mouths... a joyful gathering of everyday kitchen utensils that seem to dance to the rhythm of the music. *Liveform:Telekinetics* has transformed these appliances and utensils into an interface for human communication. Instead of a keyboard, the user employs a spoon, or the hands of a clock, to transmit information to a remote place. This work, apparently jovial and fun, leads us to question today's system's of communications technology. *LiveForm:Telekinetics* reminds us that remote communication with our loved ones is limited by the business tools - basically computers - that we have accepted, almost unquestioningly, as vehicles of communication. Instead of these, the project proposes other technological systems that create new networked social experiences.

Biography

Michelle Teran and Jeff Mann explore the use of electronic and digital technologies to generate remote communication networks, extending and enhancing the present-day social activities. Mann gave us a preview, at the beginning of the 80s, of some of the current trends in new media art. He works particularly in the creation of interactive installations and his research interests lie in digital interfaces in real-world scenarios. Between 1987 and 2002 he was one of the architects of InterAccess (one of the most important art and new media centres in Canada) and in 1996 he founded the Toronto's Arts & Robotics Group.

Michelle Teran explores the interaction between social networks and technological media in the context of public and private spaces. Her works, centred on online performances, installation and projects, investigate aspects related to communication and surveillance, intimacy, social rituals, collaboration and public participation. She has given conferences, exhibited and performed in spaces and at events such as Transmediale, Ars Electrónica, ISEA and V2.

THIRD PRIZE

Erik Olofsen
Divine Methods/Hidden Motives
The Netherlands

In a poem about the new steam engines, British author Rudyard Kipling compared their predictable and dynamic repetition to the religious concept of predestination. After describing one of these mechanisms, the poet ended by saying "Calvin might ha' forged the same." In *Divine Methods/Hidden Motives*, Olofsen creates fascinating associations of ideas through a minimalist art project that incorporates the use of a robot. A simple lit candle, sustained by the arm of a robot, is mounted on the top of a church. The robot contorts and twists in a manner impossible for a human arm, suddenly turning inside

out like a sock. However, no matter how it moves, the candle remains steady, completely erect and always lit. An atheist would argue that the project represents the contortions that a believer has to make to keep faith, whilst a believer would affirm that the work symbolises the strength of faith in the face of worldly distractions. Lastly, a materialist would declare that it is nothing more than a robot holding a candle, perched on a church. The piece acts as kind of belief catalyser that reflects the spectator's perspective.

Biography

A graduate from Gerrit Rietveld Academy and Rijksacademie for Fine Arts in Amsterdam, Eric Olofsen has held a number of residencies: Japan Media Arts Festival (2006), Chinese European Art Centre (2004), Arte Fundazioa in Bilbao (2007) or the Chambre Blanche, in Quebec (2008). He won third prize at the Media Forum International Film Festival in Moscow and second prize in the sculpture / installation category at the Prix de Rome, among others. He has held numerous individual exhibitions, such as Drives, at Juming Museum in Taiwan or Passage at the Palais des Beaux Arts, FreeSpace, in Brussels.

WINDERS OF VIDA 9.0

FIRST PRIZE

Paula Gaetano
Alexitimia
Argentina

Alexitimia, a concept that gives this robot that looks nothing like a robot its name, is a term that describes the incapacity to verbalise emotions. This work is an invitation to contemplation, as it silently exudes a dual impression of coarseness and sensuality in its appearance. It invites the spectator to resort to touch to satisfy an inevitable curiosity about the material of which it is made. *Alexitimia's* only response to the stimulus of the spectator is a bodily function: sweat. This work evokes the elimination of all communicative exchange between the robot and its environment, with the exception of a purely corporeal language, that of touch, and a single response, namely the water that falls from the hidden tanks when the robot is touched. Apart from constituting a metaphor for man-machine communication, this mechanism reconciles the "wet" realm of nature with the "dry" realm of electronics.

Biography

Paula Gaetano Adi holds a degree in Audio-Visual Communication and a Diploma in New Media. During 2006 she held a research residency at REMAP (Center for Research on Engineering, Media and Performance) at the University of California, Los Angeles (UCLA). In 2005 she obtained a scholarship from the National Arts Foundation in the field of audio-visual media to research robotic art together with artist Mariela Yeregui. She is currently a professor of Electronic Arts at the National University Tres de Febrero in Buenos Aires.

SECOND PRIZE

Daniel Palacios
Waves
Spain

Waves uses a long piece of elastic string and two motors to visualise the presence of the people close to the installation. The string spins between the two motorised cameras to produce a simulation of a senoidal wave that looks both like the digitisation of the

acoustic waves in real time and the flow and connectivity patterns of natural systems. Palacios' work is a clear manifestation of how the simple act of making visible the "invisible" can produce significant effects, both in our understanding of the world around us and in the close relationship that we have with the natural and the environment we occupy daily. Although the project may seem to be simply a visualisation of intangible forms, it creates unique sound and visual effects related to the "persistence of vision" and our connection with the sound and electromagnetic waves that inhabit the spaces that we occupy.

Biography

Daniel Palacios works in the field of Art, Science and Technology. He researches the application of the new technologies in the world of art, developing projects based on physical interfaces customised for intuitive interaction by the users, who feel the reaction of the installation and their intervention, creating a dialogue between both in real time. During his career he has worked in sculpture, photography and multimedia, always linked to the world of electronics and computers.

THIRD PRIZE

Shih Chieh Huang

EX-DD-06

United States / Taiwan

Prefabricated electronic components made with synthetic materials are dismantled and then recombined to form new and surprising elements. The resulting animated objects, full of sensors, are both familiar and confusing due to the humorous re-contextualisation with which they interact with each other, as well as with the spectators. They produce an unusual connection between the organic and synthetic materials and movements; for example, by the functional link of an automatic light switch with a video image of the eye of the artist, the relation established between the blinking of a human being's eyes and a flashing light bulb is strangely logical, but profoundly poetic. When the multiplication of the eyes on the video screen is used to control inflatable plastic tubes and coloured lights connected to the screen, the resulting creature seems to take on a life of its own. Ex-DD-06 is a tribute to the bricolage culture, transforming the most everyday electrical appliances into magical hybrids.

Biography

The works of Shih Chieh Huang have been shown internationally in spaces such as the Shanghai Museum of Contemporary Art, the Kunsthaus in Dresden, the MOCA in Taipei or the PS-122, among many others. In 2007 he has been nominated by the Smithsonian Institute Artist Research Fellowship and in 2006 he received the Rockefeller Foundation NVR New Media Arts Fellowship and the Art Omi.

VIDA JURY

Monica Bello (Spain) is the independent commissioner. Her main area of interest is currently the intersection between art, science and technology. She was commissioner for the exhibition *Organismos: esto es vida*, the first bioart event in Spain (La Casa Encendida, 2004 and Espacio Cultural de Caja Madrid in Barcelona, 2005). Since the middle of 2004 she has worked on the Capsula project, a platform for the research and production of cultural events focussed on art, science and nature topics. In February 2006 Capsula inaugurated *Días de Bioarte* at the Centre d'Art Santa Monica in Barcelona and at Barcelona University, which consisted of a series of presentations and workshops centred on the "bioart" phenomenon. She is currently immersed in the Neurotica research project, which was presented in November 2006 at the CCCB.

José Luis Brea (Spain) is professor of Aesthetics and Theory of Contemporary Art at Carlos III University in Madrid. He is director of the journals *Estudios Visuales* and *salonKritik*, and is an independent art critic. He is also director of the *Estudios Visuales* collections for publishers AKAL and CENDEAC. His most recent publications include *Cultura RAM. Mutaciones de la cultura en la era de su distribución electrónica*. Among his latest exhibitions are *Economías identitarias en la era del capitalismo informacional*, *La Conquista de la Ubicuidad* and *<no+tv>*, an online exhibition organised for the Festival of Navarre. He is member of the Assessment Board for the ARTNODES projects at the Universidad Oberta de Catalunya and regional editor of *Rhizome*. He was a member of the Telefónica Foundation's Art Committee and the FECYT's Humanities Committee, for which he co-ordinated the White Paper on the Intersection of Art, Science and Technology in Spain. He directed the Ministry of Culture's exhibition services from 1985 to 1988.

Jonah Brucker-Cohen (USA) is a researcher, digital artist and doctor candidate in the *Disruptive Design Team* of the *Networking and Telecommunications Research Group* (Trinity College, Dublin). He was also a researcher in the *Human Connectedness Group* in MediaLab Europe and is the co-founder of the *Dublin Art and Technology Association* (DATA Group). He is an associate professor in the New York University's Interactive Telecommunications Programme. Between 2006 and 2007 he was a researcher with Eyebeam in New York. His works have appeared in numerous international publications, such as *WIRED Magazine*, *Rhizome.org* or *Gizmodo*, they have been exhibited in events such as *ArtFutura*, *DEAF* or *SIGGRAPH* and can be seen in museums such as the ZKM, the Whitney or the ICA in London.

Daniel Canogar (Spain) is an artist and commissioner. During his studies in New York he experimented with different media, especially sculpture, performance and theoretic essays, however, photographic installations remained his favourite medium. In 1992 he published *Ciudades Efímeras: Exposiciones Universales, Espectáculo y Tecnología*, a research into the architecture of the spectacle of the universal exhibitions. In 1993 he directed the "Virtual Reality: Social Impact and Artistic Applications" course, within the El Escorial summer courses programme. Since then he has directed a number of courses, seminars and workshops dealing with art and the new technologies. In recent years he has been working with fibre optic cable for the projection of digital photography. His works, such as "Alien Memory", "Sentience" or "Bringing Down the House", explore the paradoxical presence of the human body in the digital environment.

Chris Csikszentmihalyi (USA) is an associate professor of Science and the New Media and directs the Computing Culture Group at the MIT Media Lab. For 10 years he worked on new technologies, new media intersection. Interested in cultural narratives, his work seeks to create new technology that, in a certain manner, deals with the social environment. His latest piece, "Afghan Explorer", is a technology designed to defend the

First Amendment, a remote controlled robot journalist that eludes the US military censure. His previous piece, "DJ I Robot", won the special prize at the Split Film Festival, and was nominated as "Best Artistic Software" at the Transmediale in Berlin.

Joe Faith (United Kingdom) researches the application of artificial intelligence and learning techniques technology and, through Northumbria University, has patented a new interface technology for mobile telephones. Specialised in Neuroscience and doctor in philosophy and artificial life studies, he was the organiser of the Fourth European Conference on Artificial Intelligence, held in Brighton in 1997, where he was commissioner of the exhibition *Like Life*. He is author of numerous publications and his most recent conferences include one given at the International Arts and New Technologies Centre in Prague on artificial life technology and art.

Daniel García Andújar (Spain) began his artistic activity in the eighties, mainly in the field of video, participating in projects in the public sphere related to topics such as racism or xenophobia, as well as dealing with the misuse of technology in surveillance systems. Since 1996, after familiarising himself with computer resources and their interactive possibilities, he has been working on the *Technologies To The People* (TTTP) project, both on the net as well as in physical media (exhibitions, installations, CD-ROM). TTTP is lodged at irrational.org, a site that contains a selection of net art such as "Some of my Favourite Websites are Art and Beyond Interface".

Machiko Kusahara (Japan), doctor in engineering from Tokyo University, teaches at the Letters, Arts and Science School at Waseda University (Tokyo) and is guest professor at UCLA (USA). Researcher and theorist of *media* art, he has published and acted as commissioner in multidisciplinary projects that associate art, science, new technologies, culture, sociology and history. His publications include *Migrating Images* (Centre of World Culture, Berlin, 2004) and *The Robot in the Garden* (MIT Press, 2000). During the last few years he has collaborated with Ars Electrónica, ISEA04, NTT/ICC (Tokyo InterCommunication Centre) and the Japan Media Arts Festival.

Manuel de Landa (Mexico / USA), philosopher and artist established in New York since 1975, he began his career in the field of art and the new media in the 80s, becoming a pioneer and outstanding theorist in electronic art. Professor at the Columbia Graduate School (New York), he has written extensively about non-linear dynamics, self-organisation theory, artificial life and intelligence and the theory of chaos. He is the author of *War in the Age of Intelligent Machines*.

Rafael Lozano-Hemmer (Mexico / Canada) is an electronic artist whose works in kinetic sculpture, interactive environments, installation and photography have been exhibited in a couple of dozen countries, including the Venice Biennale (Italy), Art Basel Unlimited (Switzerland), the Shanghai Biennale (China), the ITAU Cultural (Brazil), the Istanbul Biennale (Turkey) and the Havana Biennale (Cuba), among others. His works have been included in private and public collections, such as the MOMA in New York, or the Daros Foundation in Zurich. He won the "Golden Nica" awarded by Ars Electronica. His many other recognitions include the BAFTA prize for Interactive Art (London), a mention in the SFMOMA Webby awards, an excellence prize at the Media Art Festival in Japan and his nomination as "Artist of the Year" in Wired Magazine's Rave Awards. He has given workshops in locations such as the MIT MediaLab or the Guggenheim Museum and has written for publications such as Leonardo or Kunstforum.

José-Carlos Mariátegui (Peru / United Kingdom) is a media scientist and theorist and chairman of Alta Tecnología Andina - ATA, an NGO dedicated to the development and research in art, science and technology in Latin America. Founder of the International Video/Art/Electronic Festival (Lima, 1998-2003) he has been commissioner in a number of international *media art* exhibitions. He was commissioner for the IFA travelling

exhibition, *Nueva/Vista video arte de America Latina* (Bonn, Stuttgart and Berlin, 2002-2003), member of the Cultural Diversity Committee for the Inter-society of Electronic Arts (ISEA) and of the 2002 ISEA International Committee. He was also a member of the Advisory Committee for Prix Ars Electronica (2004). He currently acts as a node for the Tester project (<http://www.e-tester.net>), an experimental creation platform and has recently published the book, *Zapping al Futuro* for SONY.

Sally Jane Norman (New Zealand / France) is a theorist who works on the development of links between the theatre and technology. She has a doctorate in non-figurative aesthetics in performance and the body in avant-garde theatre (Paris III University - Sorbonne Nouvelle). Her publications deal with a number of different topics, including shaping the spectator's gaze, ways of alienation or "otherness" in live performances, as well as immersion and theatricality. She is associate researcher at the CNRS in Paris. She also organised the Louvre International Conference on New Images and Museography in 1993 and 1994.

Jane Prophet (United Kingdom) was professor of Visual Arts and New Media and co-director of the Arts Research, Technology and Education Centre until 2006. Her works include large scale installations, digital printing and objects and reflect her interest for science, technology and landscapes. Prophet is author of multidisciplinary works that have gained international recognition owing to their pioneering nature in the fields of art, science and technology, such as, for example, "TechnoSphere". In 2002, she collaborated with mathematician Mark d'Inverno and Neil Theise, a scientist with extensive experience in the study of cellular behaviour.

Fiona Raby (United Kingdom) teaches at the Royal College of Art in London and is guest professor at the Interaction Design Institute in Ivrea, Italy. En 1994, together with Anthony Dunne, she founded Dunne & Raby. They work with cultural, academic and industrial organisations, using design as a means of exploring the social, cultural and ethnic impact of the emerging technologies. Their projects include: *Flirt*, a research project on mobile telephony, backed by the European Union; *Placebo*, a collection of electronic objects that explore mental wellbeing in the home, and at the present time, *Consuming Monsters: Big Perfect and Infectious*, a project that examines the role design can play in the debate surrounding our bio-technological future.

Nell Tenhaaf (Canada) is a multidisciplinary artist and professor in the Visual Arts Department at York University in Toronto. Her research in both the visual and theoretical fields focusses on the construction of "I" as a mutable entity shaped by science and the new technologies. She is author of a number of essays, one of the most outstanding of which has been published in *Immersed in Technology: Art and Virtual Environments* (The Banff Centre and MIT Press, 1996).