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On Globes, the Earth, and the Cybernetics of Grace

Abstract

The article presents an enquiry into conceptions of 'global' that began at the American Society for Cybernetics 2020 *Global Conversation* conference. Following the traces of Margaret Mead's statement that emphasized that the first photographic images of Earth from space presented notions of fragility, the article contextualizes recent critique of the dominant representation of the Earth as a globe that emerged in conjunction with the discourse on the Anthropocene. It analyses the globe as image and the sentiments that accompanied it since the first photographs of our planet from space were published in 1968. The article outlines how the cultural meaning of the whole Earth representation changed in parallel with the appropriation of the image by the large technological enterprises that emerged from America's counterculture. It returns to the possibility of a coexistence of 'views from within' and 'views from without' following a detour with Gregory Bateson via Bali and proposes a Cybernetics of Grace as a practice of resistance against pure exteriority. The article concludes by linking the Cybernetics of Grace with the second-order conversations of Gordon Pask.

Keywords: second-order cybernetics, globe, Earth, grace, conversation, art

Introduction

And philosophers tell us [...] that communion and friendship and orderliness and temperance and justice bind together heaven and earth and gods and men, and that this universe is therefore called Cosmos or order, not disorder or misrule, my friend. (Plato ~380BC: 297)

By September 2020, the world had already experienced several months of the Covid-19 pandemic. I had become almost accustomed to being locked out (China) and locked down (France). As online meetings and remote teaching began to feel like a new normal, experiences of interiors had become synonymous with spatial experiences in general. The concept of travel was eliminated from the present and exiled to the history books of the geographers. What remained of their discipline were maps of the world. These, however, became ubiquitous. Two types of maps, in particular, became part of the quotidian experience. A world map served as a static backdrop for the ever-evolving infection statistics. The second, a time zone map, became an essential tool in navigating the ramifications of the former.

While some organisations, out of either prudence or hope for the imminent return to a pre-pandemic normality, postponed events until the following year, the American Society for Cybernetics chose to conduct their annual meeting online. The event was themed *Global Conversation* and was announced with a photograph of the planet Earth in the background – a variation of the famous Blue Marble photograph that was taken in 1972 on the Apollo 17 flight (Figure 1). Fragments of code floated in the foreground of the image associated with the event's announcement. Of course, the use of the whole Earth image to evoke virtual connectedness and a common cause is not new. The Blue Marble is one of the most often reproduced photographs of all times, and it has been employed many times in such contexts (Reinert 2011; Cosgrove 2001: 257 ff.).



Figure 1: AS17-148-22727, Blue Marble, photo of Earth taken on December 7, 1972, by the crew of the Apollo 17 spacecraft en route to the Moon at a distance of about 29,000 kilometres (18,000 mi). Image credit: NASA.

I took the opportunity to reflect on the two seemingly contradictory perspectives present in the two words of the symposium's *Global Conversation* theme and the associated illustration. The view of the Earth as a globe requires a perspective from without, yet, the idea of conversation relies on a view from within. How can these two perspectives unite? My thoughts on these questions were pre-recorded for the ASC symposium as 'Thoughts on time, ecology and art' and are available via Youtube (Westermann 2020c; 2020d). A variation of

these arguments was published in *Technoetic Arts* as ‘Poiesis, ecology and embodied cognition’ (Westermann 2020b).

In my recorded talk, I presented a critique of conceptions of ‘global’ that is summarized in a conversation between six prominent anthropologists, including Donna Haraway, Anna Tsing and Kenneth Olwig (Haraway et al. 2016). This growing body of research conceptualizes the view of the Earth as a globe as a means of detachment from lived experience and care for the Earth (see Haraway et al. 2016: 540). I explored the foundation of this critique in early 20th century publications by Johann von Uexküll, whose research can also be considered foundational for the approach to embodied cognition that emerged in second-order cybernetics (Westermann 2020b). I ended the presentation with a note, stating that there are contexts in which an embodied perspective co-exists with a perspective of another dimension. Art and design, I suggested, could be conceptualized as an ‘anthropo-cosmo-technology’ permitting for the coexistence of the two perspectives whereby ‘cosmo’ indicates a cosmologic, systemic perspective that the globe representation does not (necessarily) entail (Westermann 2020b: 27).

A conversation is sometimes suspended to be continued elsewhere and at another time. The discussion on my presentation at the ASC symposium ended with a remark by Jude Lombardi, pointing to a quote of Margaret Mead¹ that emphasizes that the Blue Marble photograph transmitted notions of the fragility of the Earth. Mead's statement appeared to be posited in apparent contradiction to the critique of the rationalisation of the Earth as a globe that I had presented. I had no response then. This article, however, is a continuation of the conversation and a reflection on Jude Lombardi's remark. It explores how the cultural meaning of the representation of the globe has changed, and proposes a Cybernetics of Grace as a practice of integration to resist the externalisation of observers and re-appropriate experiences of living.

Fragile Beauty

In the first place, the Earth, when looked at from above, is in appearance streaked like one of those balls which have leather coverings in twelve pieces, and is decked with various colours, of which the colours used by painters on Earth are in a manner samples. [...] the very hollows (of which I was speaking) filled with air and water have a colour of their own, and are seen like light gleaming amid the diversity of the other colours, so that the whole presents a single and continuous appearance of variety in unity. (Plato ~385–370 BC: 170)

Archaeological research has revealed traces of ritualistic practices from the beginnings of human times, which indicate that peoples have always created narratives and images that assist the situating of their environments within a larger context. The myths and rituals they created address the realms beyond immediate understanding. Of course, the desire to explain what is not readily explicable has not vanished in recent times. It is the basis of scientific research as well. Both the practices of antiquity and enlightenment attempt to grasp what is commonly called truth and is, in fact, a 'situating.' Both the ancient and the enlightened truths aim at the confirmation of our existence, but they rely on different methods.

Myths and rituals rely on performance as a method for attaining truth. The sage, shaman, poet, and genius fulfil the role of a mediator between everyday life and a 'big unknown.' While the ancient methods of performance exemplify the inclusion of the uncertain into the presence of the living (Kant 1987: § 45-46; Vernant 1996; Heidegger 2003; Li 2010) modern experimental science with its quest for clarity, transparency, certitude and confirmation, expels the ambiguous and uncertain by its law of the excluded third (see Stengers 2000: 27 ff.; Serres 2003). The unknown is not part of scientific descriptions, as, by principle, such descriptions are permitted to include only what is demonstrable. As such, the experimental sciences differentiate themselves also from the humanities by their 'methodological approach that explains the same phenomena with a different epistemological attitude, a different level of description, and a different language' (Gallese and Gattara 2015: 161). The Royal Society, founded in 1660 in London, highlights the essence of the scientific method in their motto 'Nullius in Verba' (Sprat 1702) (Sutton, 1994). Do not rely on words! Withstand authority! The motto specifies that truth is to be founded on experimental observation. Such methodological restriction differentiates the ancient from the enlightened truth. What is considered true in a modern scientific context is limited to experimental evidence. In other words, there may be more truths than science can determine.² The shaman's dance, the poet's writing, the artist's work all rely on meaning as a pointer to truth, but this is precisely what is excluded from the scientific method. Neither meaning nor beauty forms the basis of scientific truth.

The following citation from Plato's *Phaedo* recounts the conversation between Socrates and his pupils a day before his death by drinking poison hemlock. The quote could be interpreted in a variety of ways. Considering the context, the quote could suggest that there are ideas of which we can speak as true even though there is no visual confirmation. Earth, for example, must necessarily be beautiful and true. If we could ever fly high enough, we would certainly see it and acknowledge it, but we do not need to. We know. Alternatively, the citation could be read as an insight into the power of visual evidence that will much later become the basis for science. As indicated above, the scientific method actualizes a belief in the power of visual evidence. Science integrates logic and/or visual evidence as a requirement of its methodology. This is – one could argue – a technical solution to the problem of uncertainty.

[...] for if any man could arrive at the exterior limit, or take the wings of a bird and come to the top, then like a fish who puts his head out of the water and sees this world, he would see a world beyond; and, if the nature of man could sustain the sight, he would acknowledge that this other world was the place of the true heaven and the true light and the true Earth. (Plato ~385–370 BC: 169)

According to Denis E. Cosgrove, two sets of images have fundamentally changed how we see and experience the Earth (2001: 6). The cosmographic images that were created by Copernicus and his supporters constitute the first set. The shift that they initiated from the geocentric to the heliocentric understanding of the universe is what is called today the Copernican Revolution. The second set is the collection of 20th-century photographs of the whole Earth published in the late 1960s and early 1970s. The photograph entitled Blue Marble is the most famous of these (Figure 1). It is the first colour photograph of the whole Earth taken in one shot and likely the most often reproduced image in history. Earlier images were composites. The first colour photograph of the whole Earth made available to the public was a composite of images taken by the ATS III satellite in 1967, and published by the National Aeronautics and Space Administration (NASA) in 1968, roughly ten years after NASA's foundation on July 29, 1958. It is unclear why there are not any photographic images

of the entire Earth prior to this date. Stewart Brand, who would become one of the most influential figures in American counterculture and new tech, launched a campaign in 1966, requesting that a photograph of the whole Earth be made publicly available. Whether due to Brand's campaign or not, NASA repositioned the ATS III satellite (and possibly some others) to create the series of photographs that made the first whole Earth composite image in colour. It was published in 1968 as the cover image of the first issue of the Whole Earth Catalog, edited by Stewart Brand (Brand, 1968).

Legend has it that Brand realized the impact a photograph of the whole Earth would have, while staring into the night sky during an LSD trip.³ He references R. Buckminster Fuller, the inventor of the geodesic dome and the Dymaxion map, as having laid the basis for this insight (Turner 2006: 69; Potter 2018: 451–452). Lecture recordings and publications testify that Fuller recurrently suggested that human beings do not seem to realize that they are inhabitants of a spherical planet. According to Fuller, human experience is misleading as it generally suggests that the Earth is flat. It is not a coincidence, he argued, that everyday language reflects the notion of a flat Earth in terms such as downstairs and upstairs. Ultimately, Fuller believed that the everyday sensual distortions foster the exploitation of Earth because they negate Earth's reality as an integral part of a complex system. Everyday language should change to take better account of the reality that humans live on 'spaceship Earth' (Fuller 1969). 'Downstairs' and 'upstairs,' for example, should be replaced by 'instairs' and 'outstairs' (Fuller 1983: 133).

Stewart Brand contacted Fuller, who agreed to support the campaign for obtaining a photograph of the whole Earth from NASA (Turner 2006: 69; Potter 2018: 451–452). When the photograph became available, it generated an unprecedented array of responses inherently confirming the image's relevance. Brand and Fuller were, however, not the first to suggest that photographs of the Earth from space would lead to radically new understandings. According to the book *The Island Earth* that NASA published in 1970 with a series of photographs of Earth from space, the British astrophysicist Fred Hoyle had already predicted in 1948 that the publication of such images would be recorded as a significant event in the history of ideas (Nicks 1970: 3). In a publication from 1950, Hoyle writes the following:

Once a photograph of the Earth, taken from outside, is available, we shall, in an emotional sense acquire an additional dimension. The common idea of motion is an essentially two-dimensional idea. It concerns only transportation from one place on the surface of the Earth to another. (Hoyle 1955: 16)

Fred Hoyle coined the idea of a Big Bang. He was known for his capacity to explain complex scientific concepts to a lay audience and was a popular speaker. The book cited above and first published in 1950 collects a series of radio broadcasts that the BBC transmitted in 1948 and 1949. Considering that a NASA publication references Hoyle's statement with the date of the radio broadcasts suggests that the talks were available in the United States. Subsequent publications of the talks in book format were certainly available. R. Buckminster Fuller was familiar with Hoyle's work and quoted him on multiple occasions (Fuller 1966; Siudesign 1965). While Fuller was not the first to realize that a photograph of the whole Earth could have an enormous impact, he was instrumental in advancing the idea at a time when the US American youth longed for a change in perspective. They were tired of the cold war, the Vietnam war, and the increasingly bureaucratic state (Turner 2006: 34 ff.).

The first colour photograph of Earth created the desired change of perspective, and it did so – as Hoyle had predicted – by giving access to an additional emotional dimension. It was an experiential shift. The Earth as a lonely living island in a black sea of nothing was the first image reaching the public in 1968. The same year, a photograph was taken on the Apollo 8 flight that showed the Earth rising over the Moon's horizon. Thus, for the first time, the Earth was captured in a way that suggested its movement. The photograph depicts a scene that is at once familiar and strange, since the Earth presents itself to the Moon as the Sun presents itself to Earth. The image captures two celestial bodies in concerted motion and visualizes the cosmos like drawings had suggested for centuries – as an ordered living system. An idea suddenly became tangible. The emotion associated with this realisation also underlies the statement by Margaret Mead mentioned in the introduction. In her address at the 1977 Earth Day, she said:

...it was not until we saw the picture of the Earth, from the Moon, that we realized how small and how helpless this planet is – something that we must hold in our arms and care for. (Mead 2011: 503)

Margaret Mead was not the only one to gain a new understanding with the perspective offered from space. Others shared the sentiment. In a text from 1972 entitled 'The Greening of the Astronauts' *TIME Magazine* proposes the term 'Lunar Effect' to describe the fundamental shift in perspective that the astronauts of the Apollo program experienced (*TIME Magazine* 1972). Rusty Schweickart of the Apollo 9 crew is described as 'overwhelmed by emotion' and is quoted as saying: 'I felt a part of everyone and everything sweeping past me below.' According to the *TIME Magazine* article, the journey to the Moon led Schweickart to a new life. Once he had returned from space, he engaged in a series of social initiatives as a volunteer. Taking care of others – of the disadvantaged or those struggling – became important. Mike Collins, an astronaut of the Apollo 11 flight, similarly emphasized that only when looking back from space did he realize 'what a tiny, fragile, thing Earth is' (Potter 2018: 454). Likewise, a letter entitled 'Our Fragile Environment' published in the *Science* journal in 1970 links notions of wholeness and fragility:

I date my own reawakening of interest in man's environment to the Apollo 8 mission and to the first clear photographs of the Earth from that mission. My theory is that the views of the Earth from that expedition and from the subsequent Apollo flights have made many of us see the Earth as a whole, in a curious way – as a single environment in which hundreds of millions of human beings have a stake. [...] I suspect that the greatest lasting benefit of the Apollo missions may be, if my hunch is correct, this sudden rush of inspiration to try to save this fragile environment the whole one – if we still can. (Caffrey 1970: 1561)

As the preceding quotations indicate, the first photographs of planet Earth generated a relatively widespread sentiment of emotional attachment. Thus, at the 2020 ASC conference, Jude Lombardi correctly pointed out that the critique of the dominant representation of the Earth as a globe, emphasizing it as a detaching force, appears to contradict the statements by Margaret Mead and others who had emphasized that the first photographic images of the globe from space had initiated a new environmental awareness. As the next section explains, there is no contradiction, but there is a radical shift in the cultural meaning of the relevant images and terms. It cannot be overemphasized how vital Donna Haraway's Chthulucene discourse and associated critique of characterisations, such as global, is.

[I]t matters what ideas you use to think other ideas (with). (Haraway 2016: 12).

It matters which stories tell stories, which concepts think concepts. Mathematically, visually, and narratively, it matters which figures figure figures, which systems systematize systems. [...] we need stories (and theories) that are just big enough to gather up the complexities and keep the edges open and greedy for surprising new and old connections. (Haraway 2015: 160)

Earth and Globe

Indeed, the publication of the first photographic colour image of Earth from space appears today as marking the beginning of a new era of ecological engagement. The first Earth Day was announced in 1970. The Earth Day flag prominently displays a whole Earth image. Yet, the images and audio recordings of the Apollo 11 crew landing on the Moon in 1969 already initiated a parallel discourse that began to overshadow the earlier images' ecological connotations, such as the famous Earthrise photograph taken on the Apollo 8 flight (Figure 2), had suggested. The successful Moon landing fuelled the cold war rhetoric and assisted the generation of unprecedented confidence in the capacities of the west – under the leadership of the US – to develop the technology needed to make every dream come true. This technological optimism is also a trait in the Whole Earth movement of Stewart Brand. It shines as well through the writing of Oran W. Nicks for *The Island Earth*. Nicks considered the Moon landing as only the first step into a new era of human space exploration, and thought, to future generations, the landing on the Moon would likely look like ‘the paddling out by three valiant men in a dugout canoe to explore for the first time the nearest offshore island’ (Nicks 1970: 4). He was correct to assume that a shift in perception would soon occur. Yet, it did so despite the absence of news on fleets of spaceships exploring the universe and reporting on extra-terrestrial encounters, which seemed – in 1969 – to be events of the near future. In 1972, human space travel beyond low Earth orbit was paused. The Apollo 17 flight was the last human space flight beyond low Earth orbit for more than fifty years (see Evans 2021). Only recently, has NASA launched with Artemis, a new program of human space travel. Artemis, which is partially funded by commercial enterprises, is set to land humans on the Moon again by 2024 (NASA 2020).

The publication of the ATS III composite image of the whole Earth gave momentum to the foundation of the eco-tech movement that was to be a characteristic of US American counterculture for the following decades, and led from the *Whole Earth Catalog*, via the *Evolution Quarterly* journal and the *WELL (Whole Earth Lectronic Link)*, to the foundation of *WIRED* magazine in 1993 (Turner 2006). The marketing of individualized technology as a response to ecological concerns worked surprisingly well for some time, but, as the title of *WIRED* indicates, ecological concerns faded when personalized technology became successful enterprises. While the whole Earth image was an important symbol of American counterculture and the ecological movement in the late 1960s and early 1970s, the cultural meaning of the image shifted in the mid-90s. The image of the green-blue-white globe swimming in black space became ubiquitous when the internet-based new economy appropriated it to communicate global reach and connectedness (Turner 2006; Cosgrove

2001). The globe now suggested a geometric universality that was not present in the narratives of the early 1970s.



Figure 2: Famous picture AS08-14-2383 of the Earth rising over the lunar horizon taken aboard Apollo 8 by Bill Anders on 24 December 1968. Apollo 8 was the first crewed spacecraft circumnavigating the Moon. Image credit: NASA.

A more careful analysis of the terms globe, Earth and world that associate with the cultural practices of cosmography, geography and chorography provides valuable insights (see Cosgrove 2001; 2008). Globe is not the same as Earth or world. While the terms relate and even fold into each other, sharing some meanings, they are not the same. Each comes with its own unique set of allusions – one more readily than the other attaching with the practices of an astronomer, geometer, geographer, or chorographer. They all might speak about and think the globe or Earth, but how they think the globe or Earth, or what they think the globe or Earth with, might not be the same.

The term globe tends to allude to a cosmic order, a well-organized divine system. The globe is sublime in its perfect form. It is abstract geometry ‘emphasising volume and surface over material constitution or territorial organisation’ (Cosgrove 2001: 8). When the globe is thought of as terraqueous globe, surface is emphasized over volume. Earth – also terra – on the other hand, alludes to the physicality of soil, to living as a form of cultivating and taking care. Earth is ‘environmental rather than spatial,’ says Cosgrove (Cosgrove 2001: 7). World, on the other hand, has spatial characteristics, but they are different from those associated with the globe. The term indicates a lifeworld and with it agency. One world encounters another, and thus the term world also indicates plurality and alludes to cognition, as it is cognition that makes worlds. The term worldview captures this plurality.

Tim Ingold differentiates between two spheric geometries, the globe and the sphere. The latter is cosmologically connected and allows for a view from within, while the first enforces a view from without. The dominance of the global perspective in recent discourse, Ingold argues, ‘marks the triumph of technology over cosmology.’ Technology, unlike traditional cosmology, does not place ‘the person at the centre of an ordered universe of meaningful relations’ (Ingold 1993: 38). Not unsurprisingly, the appropriation of the globe by big tech and want-to-be-green enterprises in the 1990s occurred in a manner that resembles the appropriation of the globe by monarchs, emperors and dictators in earlier times. Ancient rulers and conquerors commonly depicted themselves with the globe, alluding hereby to divine powers, repositioning themselves as extra-terra. Such detaching from Earth facilitated the mapping of European models onto the entire globe. Likewise – and this is at the heart of the globe critique – some contemporary universalist approaches to environmentalism appear to follow these traces as they actualize views from without. Their mappings of ideas are essentially repeating the colonialists’ mistakes of mapping euro-centric views onto the globe.

In a scene that Charlie Chaplin masterfully conceived for the film *The Great Dictator*, Hynkel, the ruler of Tomania, is shown in his office of imperial grandeur, taking a globe off its stand, throwing it into the air. He catches it and tips it into the air again as a gymnast does with a ball. As in rhythmic gymnastics, where more complex figures typically follow simpler ones, Hynkel presents more extravagant moves once he seemingly becomes at ease with the basic ones (Figure 3)(Chaplin 1940). Chaplin's performance presents the audience with an ambiguous image of a globe-ball that suggests graceful beauty and, at the same time, radical negligence and abuse. As it is planet Earth that figures as a ball, the grace we would associate with a gymnast's ball-play flips into the negation of grace. As Chaplin shows, what looks like play is not necessarily play as it incorporates direction and purpose toward an external goal, serving the dictator's ego and not the beauty of the performance. A gymnast engaging in a performance is always within a state of play, but the dictator's tipping and kicking of the globe-ball into the air appears to be affected from without.

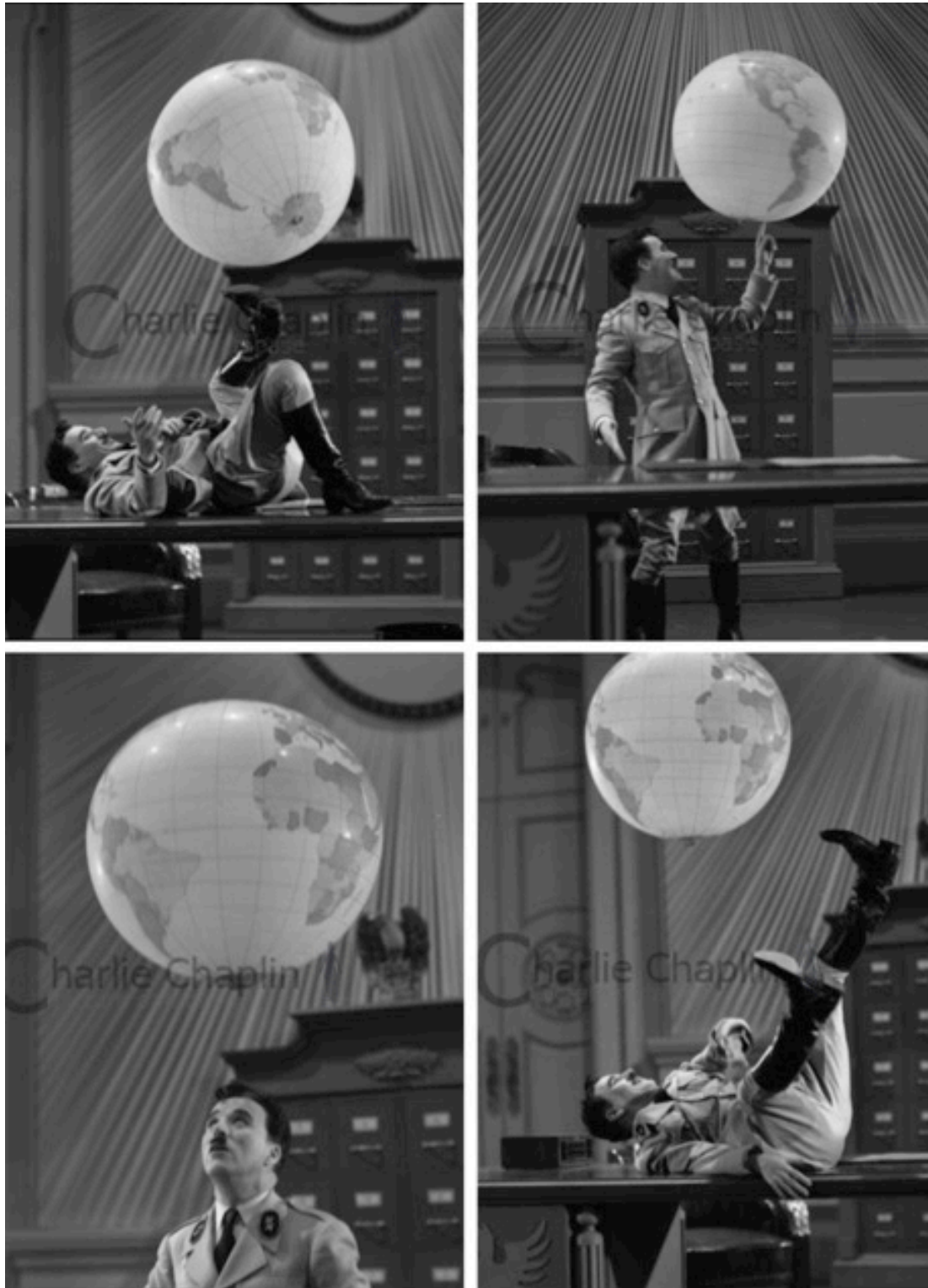


Figure 3: Charlie Chaplin, globe scene, four clippings, *The Great Dictator*. Copyright © Roy Export S.A.S.

The performance records a process of objectification that actualizes detachment. The scene does not only reflect and question the hubris of Germany's Hitler, but also the practices that accompanied fascist rule. Rhythmic gymnastics, with or without apparatus, was what

countless girls in Nazi-Germany engaged in as part of their training for good motherhood and service to the nation. There is no male version of rhythmic gymnastics. Chaplin's performance presenting a dictator's globe gymnastics integrates seemingly disparate and opposing notions and resists objectification. The characteristics of this principle of integration is referred to by Gregory Bateson as grace.

While the image of the globe at the end of the 1960s and the beginning of the 1970s came with connotations to both Earth and globe, triggering notions of fragility and care, it shifted in the 1990s to allude to a measurable entity, correlating in many ways with the conceptions and appropriations past rulers enacted in their representation of the Earth as a globe. Perhaps, NASA's Artemis programme will generate new images of the Earth that will assist in re-contextualising today's Blue Marble, which is charged with significant symbolic meaning, however, detached from lived experience. The critique that conceptualizes the use of the globe image as a means to actualize a new colonialism via the idea of a unifying global concern, that essentially maps Western perspectives onto the entire planet, has gained popularity in recent years. It takes the shifting cultural meanings into account. Authors, such as Donna Haraway, Tim Ingold and Dennis E. Cosgrove, each in a different way, offer approaches to understanding how the image of the globe with its contemporary connotations facilitates the externalisation rather than the internalisation of observers. Considering this, the critique aligns well with positions in second-order cybernetics with their insistence on the included observer.

The astronauts of the Apollo space programme were not external observers. As the prior quotations indicate, there was a strong sense of being within – a part of the cosmos. Following Tim Ingold, one could state that the astronauts saw a sphere rather than a globe. Denis E. Cosgrove would likely suggest that the astronauts saw both globe and the Earth. Accounts from the late 1960s and early 1970s suggest that witnesses of the mediated Apollo flights 'inherited' the astronauts' view of a globe-Earth or sphere. Inheritance indicates the 'thinking-with' that Donna Haraway highlights. Only later, did the Blue Marble become a detached and detaching globe.

The following passage returns to the notion touched upon in conjunction with Chaplin's globe-ball scene – the notion of grace. It offers a point of entry to conceptualizing practices of resistance to pure exteriority.

The Cybernetics of Grace

I argue that art is a part of man's quest for grace; [...] For the attainment of grace, the reasons of the heart must be integrated with the reasons of the reason. (Bateson 1987: 137–138)

When Gregory Bateson was invited to give a talk to the Wenner-Gren Conference on Primitive Art in 1967, he chose as an initiation for his presentation entitled 'Style, Grace, and Information in Primitive Art' one of the paintings that he and Margaret Mead had collected thirty years earlier during their research in Bali (Bateson, 1987; Vickers, 2020). The painting from 1937 by Ida Bagus Made Jatapura⁴ of the village Batuan depicts a cremation scene. According to local belief, the burning of the corpse with its accompanying ritual initiates the release of the soul from the body into the realm of the divine elements. The so-called Ngaben ritual is one of the most important and complex rituals in the Bali tradition (Bateson and Mead 1942: 231 ff.). Yet, the painting's purpose is not to provide a description of the ritual

per se. Art extends beyond description, Bateson says, and quotes the well-known pioneer of experimental dance, Isadora Duncan, stating: 'If I could tell you what it meant, there would be no point in dancing it' (Bateson 1987: 147). Art, according to Bateson, fulfils the function of integrating opposing poles, and it does so most importantly by integrating the unconscious and the conscious – heart and reason (Bateson, 1987: 137-138).

This essentially means that there is an integration of different perspectives and ways of knowing. The conscious is accessible and clear, but there is only limited space for information to be held in such clarity, ready for use. The conscious can handle only limited information. According to Bateson, the conscious has both qualitative and quantitative limits, and it needs the unconscious to store access information. Skill, for example, develops in parallel with forgetting on how something is done. While the knowledge of the 'how' is not wiped out, it is sunken into the unconscious. Similarly, habit formation is a process that relates to an 'economy in consciousness' (Bateson 1987: 152). In general, human consciousness grasps only partial pictures. Seeing an iceberg, Bateson states, we can guess what is beyond, but the relationship between the conscious and unconscious is far more complex (1987: 154). We cannot induce what the unconscious is like from the display of the conscious, in the same way as the flickering screen of a broken TV does not tell us what the cause for the malfunction is. There is no option for causal induction. The TV must be opened, but the technicians' work is relatively simple compared with the work of doctors and psychologists (1987: 153). The mind, in any case, is a black box to which the brain only delivers partial answers. According to Bateson, art fulfils an essential function in this situation as it complements human limitations, such as the qualitative and quantitative limits of the conscious. Through a principle of integration, art provides an ambiguous but at the same time more accurate picture of the inhabited worlds than consciousness. This principle of integration – inherent to all art – according to Bateson, presents itself as grace (1987: 138).

The painting by Ida Bagus Made Jatasura provides a good basis for explaining the dynamics operating in art, precisely because the work originated in a community that was content with serving the Gods. Rituals were such an essential part of everyday life that they involved everyone. As Margaret Mead outlines, art was always performative in the Bali of the early 20th century. Being part of life meant that art was always in flux. Because art was seen as always evolving, the criterion for art in this context was not a particular level of perfection. Rehearsals took precedence over finished works (Mead 1970). Bali gained some eminence at the beginning of the 20th century because it revealed the possibility of another worldview from the viewpoint of a life that includes art as an everyday practice (Mead 1970).

Depicting a cremation scene, in the lower half, the painting by Ida Bagus Made Jatasura, shows a group of men in agitation. Some stand on the ground. Some have climbed the cremation tower. Their arms are lifted. It seems that the painting shows the moment in which the physical remains of the deceased person – carefully wrapped in various layers of shroud – are handed over to the tower. The turbulence is part of the ritual. The aim is to confuse the evil spirits, who might attempt to convince the deceased's soul to return home rather than 'sailing' off into the realm of the divine elements (Bateson and Mead 1942). In the upper half of the painting, there is serenity. Women in upright posture carry offerings on their heads. A pattern of leaves provides a background and a frame for the scene. The pattern, presenting at once regularity, redundancy and variation, actualizes the principle of integration on one plane. The integration of turbulence and serenity is on another plane, and the integration of the male and female is on yet another. There is no final choice for one or the other of these opposing poles – they all co-exist in the painting in dynamic conversation. Art is about

relationships, Bateson states, not about specific relata (Bateson 1987: 149). Thus, the painting is not art via the description of a particular event but via the actualisation of an integrating principle. Furthermore, through the revelation of the relationships between a particular lived experience and general characteristics of living, the painting becomes transcultural. One could also say that it gains universality. Notably, this universality is not achieved through the elimination of a ‘view from within.’ Grace, denoting the experience of the principle of integration that operates in art, also serves to integrate views ‘from within’ and ‘from without.’

Nevertheless, the use of the term grace, with its allusion to kindness and virtuosity, in the context of a talk on Balinese art might appear strange if we consider that the idea of grace has had an extremely long, well-documented history in the Christian context. Grace is the common translation of the term χάρις (charis). It occurs 156 times in the New Testament, of which The King James version translates 130 occurrences as grace. Grace, in the biblical context, refers to ‘that which affords joy, pleasure, delight, sweetness, charm, loveliness’ as, for example, in ‘grace of speech,’ but it also relates to ‘good will, loving-kindness, favour’ (Blue Letter Bible 2022). Conceptions of χάρις are critical to Christian theology, but they have nevertheless had a significant impact on western philosophy and art over the past 2000 years. Many thinkers who do not identify with Christianity have also written on grace. The borrowing of the term grace within the context of a discussion of Balinese art makes more sense if one takes into consideration that there is no Balinese aesthetics (Davies 2007). When speaking about Balinese art, one is always faced with the problematics of having to begin from scratch or import terms and concepts, adjusting them subsequently. While this might not yet appear to be a convincing argument for the choice of the term, it is important to note that Bateson, in his arguments for the importance of grace, quotes Aldous Huxley’s notion of grace as a perennial, transcultural concept, influenced by both Chinese and Christian philosophy.

According to Huxley, the human being is offset from the world by self-consciousness, inferior to the animal that lives with nature without questioning it, but also offset from the higher spirituality of the divine. Within this context, Huxley describes ‘the quest for grace’ as ‘the central problem for humanity’ (Bateson 1987: 137). As the entry on grace in *The Perennial Philosophy* shows, Huxley relates the idea that human beings typically fail to realize their potential, finding themselves offset from both the animal and the divine, to ancient Chinese philosophy (Huxley 1945: 165 ff.). The idea exists in both Confucian and Daoist thought. The term 德 (dé) used in this context is not typically translated as grace, but it carries the notions of virtue or virtuosity, sometimes of kindness (Ni 2017: 36-38; Cooper 2012), and it is strongly related to self-cultivation through art. As 德 (dé) carries – like grace – notions of love, kindness and virtuosity, it is not necessarily a bad choice as a term for a transcultural concept, except that the idea of grace is so closely linked to a world view with a transcendent divine that relating it to a world with an immanent divine, such as the Chinese, is not entirely unproblematic. In the Chinese context, the human 德 (dé) is attainable through self-cultivation. The classical gardens were built precisely for such self-cultivation. They created a micro-cosmos for the appreciation of landscape, assisting the practicing of poetry and painting, and supporting the aim of the scholar officials to become exemplary persons (君子, jūnzǐ) (Hall and Ames 1987; 1998) – a state of being that realizes the human 德 (dé) as it re-orientates the person toward compassion and care through an art practice that is the everyday practice of amateur artists.

If one were to suspend the act of naming, one could note that diverse cultures have identified in art a principle that acts to integrate contrasting poles and that emerges, strangely enough, as transcultural if not universal, as it attains in the act of integrating notions of kindness, virtue and virtuosity. One could argue that a principle of integration that aims at the coexistence of 'heart and reason,' as the quote at the beginning of this section suggests, could also serve the integration of the spherical view from within and the view of the globe from without. Such a process of integration would thus serve the construction of resistance to the externalising of the observer. It seems that it is precisely such resistance that would be helpful for re-integrating Earth and globe into one dynamic realm of sensorial experience.

Returning to the question that I posited at the beginning on the compatibility of views 'from within' and 'from without,' I now offer a response that affirms the relevance of their coexistence in a second-order cybernetics context. Concretely, this also addresses the problem of whether the alliance of the terms 'global' and 'conversation' in the title of the ASC 2020 conference could be regarded as a meaningful proposal. I suggest that second-order cybernetics offers a principle of integration, similar to art, inherent in the idea of conversation. Conversation in the second-order sense is conceived as an aesthetic practice.

For those familiar with John Dewey's conception of aesthetic experience, I would note that there are links between the pragmatism of Dewey and the constructivism of Pask, for whom conversation was such an important idea. As I have outlined elsewhere, both thought that one of the most fundamental characteristics of humans is their striving to learn. Both saw in 'aesthetic experiences the highest potential for learning' (Westermann 2020a: 2179). Unlike Dewey, who thought aesthetic experiences could evolve from everyday experiences without restriction, Pask limited the situations from which aesthetic experiences could emerge, to the more specific everyday experiences of conversation (see also Dewey 2005; Pask 1975; 1976; Glanville 2006). By doing so, Pask importantly captured that aesthetic experiences are always intersubjective (cp. Hustvedt 2005: xix). Conversation is the most basic intersubjective everyday practice, yet with significant aesthetic potential (Pask, 1970). Glanville's exploration of the idea of conversation in the design context further emphasized its connection to an integrating practice. In the second-order sense, conversation in the context of an everyday that is always constructing, turns into an everyday art practice. Conversation thus could be seen as a form of everyday art practice to which a principle of integration is inherent. One could then, in this context, also speak of a Cybernetics of Grace, and further state that the idea of *Global Conversation* presents a proposal to take second-order conversation seriously with its potential to stabilize the globe's performance in an orbit of ambiguity, at once globe and Earth, and integrating the views 'from within' and 'from without.'

Conclusion

Beginning with Margaret Mead's quote, which emphasized that the first photographic images of the globe from space had transmitted notions of fragility, the investigation into the cultural meaning of the globe image showed how important it is to keep track of the ideas that one thinks ideas with. The globe/Earth/sphere was not always the globe/Earth/sphere it is today. Its meaning has changed over the centuries, and 20th-century new technology enterprises were not the first to appropriate the image of the globe in an attempt to stabilize their power. Against the detaching and de-contextualising force of the globe image in today's dominant cultural meaning, the article proposes a Cybernetics of Grace as a practice of resistance and re-appropriation. This second-order practice offers, similar to art practice, a principle of

integration. In situations of crisis, caused by the separation of concepts and views, it could act to integrate opposing poles, including views 'from within' and 'from without.'

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Notes (same as endnotes)

1. The quote follows in one of the next sections.
2. Ironically, the motto, which posits the scientist as rational being guided solely by reason, evidence and logic, is taken from the work of a poet. The motto is an excerpt from Horace's Epistles, Book 1: 'Nullius addictus iurare in verba magistri ...' 'Not bound to swear subservience to any master ...' (Sutton 1994, p. 57)
3. One could call this a technical solution to a question of synthesis. It should be noted that Brand refers to his former drug usage as a 'shortcut' he would no longer endorse (Ferriss and Brand, 2018).
4. See the note in Vickers (2020: 325), who points out that Bateson uses for the name of the artist 'an old colonial form of spelling current at the time of his fieldwork.' In the 1987 edition of *Steps to an Ecology of Mind* the spelling is Ida Bagus Djati Sura (Bateson 1987: 157).

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² Ironically, the motto, which posits the scientist as rational being guided solely by reason, evidence and logic, is taken from the work of a poet. The motto is an excerpt from Horace's Epistles, Book 1: 'Nullius addictus iurare in verba magistri ...' 'Not bound to swear subservience to any master ...' (Sutton 1994, p. 57)

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