

Motion Within Motion:

Investigating Digital Video in Light of Substantial Motion

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Abstract

Initiated by personal experiences of misrepresentation and stereotyping in relation to Iran, its people and culture, and underpinned by a cultural position aiming to counteract their isolation and disconnection from the rest of the world, this thesis questions the surface of digital images to stimulate different ways of seeing and knowing. The research considers creative approaches engaging moving image in relation to the world outside of the frame, in tandem with philosophical enquiries. Theoretically and practically, it is inspired by the movement between figurative/representative and non-figurative/non-representative elements in traditional Persian-Islamic arts and schools of thought. The research is positioned amongst recent research on intercultural video, materiality of digital media, connections between Islamic and new media art, and new interest in Islamic and Iranian philosophy.

Classical Persian-Islamic philosopher, Mulla Sadrā Shirazi (1571-1641), in particular, provided a platform for investigating digital video and moving image art. Sadrā gives a sophisticated account of the relationship between temporal being and the infinite realm of the divine. Positioning substance between the invisible realm of the divine and the visible material world, he proposes an ongoing interchange between them. His theory of ‘substantial motion’ (*al-harakat al-jawhariyya*) posits movement and transformation within substance. Thus, substance is not fixed, but an act of existence, a process involving time and motion. Through substantial motion, every entity experiences the universe, in constant internal motion.

This thesis is the first study of Sadrā’s philosophy and his theory of substantial motion in relation to digital video and moving image art, theoretically and practically. Sadrā’s theory of ‘reality’ opens up questions and discussions concerning technological characteristics of digital video and its representational and figurative qualities. The concept of substantial motion suggests methods for moving beyond the surface of the image to search for new creative potentials in relation to the world outside of the frame. Methodologically, aspects of external and physical movement informed the gathering of visual and conceptual material (mainly in Iran). Notions of internal movement informed the analysis of the collected materials and their elements.

Concepts such as the ‘point of view of a minimal part’ and ‘becoming-pixel’ emerged in regard to digital video. The pixel, as an analytic unit within such an approach, suggests different modes of time and motion compared to the experience of time and movement within the overall frame. In this thesis, the pixel was investigated as a minimal part in relation to aspects of time, motion, and change within frames – to develop, for instance, a new understanding of the relationship between the digital image and the ‘real world’ and to unfold possibilities of new ways of seeing moving images. Sadra’s view of time, motion, and reality, in relation to a becoming entity, suggested ways of reading digital video and its minimal parts, in which the latter’s becoming is informed by the outside of the frame. From this perspective, the exegesis expands on existing scholarship of video art practices. It tests the creative potentials beyond the apparent surface of moving image, which are not limited to figurative and representational aspects driven by human-centric points of view.

Through a focus on substantial motion, the thesis creatively explores ways of seeing from a non-human point of view. A series of digital videos engages pixel, frame and the outside world. Articulating the interwoven relationships between unit and unity (or, a pixel, the frame and the world), the videos move between figurative and non-figurative elements that already exist within a video image (such as pixel, time and motion). Zooming in and out of frames, splitting images into units, and using different modalities of time and motion, they reveal the inner activities of the frame. The outcomes, in turn, inform decision-making for video practice and conceptual developments.

Table of Content

| | |
|---|--------------|
| Abstract | vi |
| Table of Content | ix |
| List of Figures | xi |
| Attestation of Authorship | xiii |
| Acknowledgements | xiv |
| Ethics Approval | xviii |
| 1. The point of opening (Introduction) | 3 |
| 1.1 Encounters and their implications (Positioning and contribution to knowledge) | 3 |
| 1.2 Points of relations and inspirations (Placing the practice) | 7 |
| 1.3 A miniature of the universe (Traditional precedents) | 14 |
| 1.4 Points of contact (theoretical framework) | 20 |
| 1.4.1 <i>Introducing Mulla Sadrā, his approach and the political conditions of his time</i> | 21 |
| 1.4.2 <i>Sadrā and other key contexts</i> | 23 |
| 1.4.3 <i>Definition of terms and conceptual apparatus</i> | 26 |
| 1.5 To become (Overview of chapters) | 28 |
| 2 Ways of Becoming (Critical Framework, Method, and Methodology) | 33 |
| 2.1 Crossing a bab | 33 |
| 2.2 Substantial motion as a method | 34 |
| 2.2.1 <i>In and out – expanding and contracting</i> | 36 |
| 2.2.2 <i>Becoming</i> | 37 |
| 2.3 Process of Intensification | 39 |
| 2.3.1 <i>Back and forth (data collection)</i> | 40 |
| 2.3.2 <i>On the surface (analysing and categorising)</i> | 40 |
| 2.3.3 <i>Beyond the frame (Production)</i> | 41 |
| 2.3.4 <i>Technology of perception</i> | 41 |
| 2.4 Connecting points – collected data in detail | 42 |
| 2.4.1 <i>Interviews</i> | 42 |
| 2.4.2 <i>Collected images</i> | 43 |

| | | |
|----------|---|------------|
| 2.4.3 | <i>Other points (feedback and videos by others)</i> | 44 |
| 3 | Becoming - Substantial Motion | 50 |
| 3.1 | Jawhar (Substance) and minimal parts | 53 |
| 3.2 | The inherent being | 55 |
| 3.2.1 | <i>Being and existence</i> | 56 |
| 3.2.2 | <i>Being is real</i> | 60 |
| 3.3 | Becoming - Transformation / Change | 62 |
| 3.4 | Becoming reveals the 'real' | 66 |
| 3.5 | Process philosophies and Substantial Motion | 71 |
| 4 | Motion within motion – digital video and Substantial Motion | 84 |
| 4.1 | Sadrā's transcendence and Deleuze's immanence | 84 |
| 4.2 | Comparison of digital and analogue moving image | 88 |
| 4.3 | Changing virtual | 94 |
| 4.4 | The open pixel | 98 |
| 4.5 | Pixel as an eye - perception and experience | 107 |
| 5 | In search of a magic lantern (Practice) | 117 |
| 5.1 | Standing on the edge | 118 |
| 5.2 | On the outside: looking back (from a great distance) | 119 |
| 5.3 | Moving back and forth (across time and spaces) | 125 |
| 5.4 | Moving in: intensification (revealed concept; pixel and minimal part) | 136 |
| 5.4.1 | <i>Isolating pixels: zooming in</i> | 138 |
| 5.4.2 | <i>Pixel, tile, body, architecture</i> | 145 |
| 5.4.3 | <i>Pixels under the microscope</i> | 147 |
| 5.4.4 | <i>Picking a pixel</i> | 152 |
| 5.5 | Tracing points (Toward the final exhibition) | 155 |
| 6 | Re/turning point (Conclusion) | 167 |
| 7 | References | 178 |
| 8 | Appendix | 188 |
| 8.1 | Artists engaging Islamic concepts and aesthetics | 188 |
| 8.2 | Artists engaging minimal parts | 189 |

List of Figures

| | |
|--|-----|
| Figure 1. Dome of Friday Mosque (Masjed-e-jameh jam) [Photo: Author, 2011, Yazd-Iran] | 2 |
| Figure 2. Shirin Neshat (1999). Rapture [Stills from video installation] | 8 |
| Figure 3. Jayce Salloum (2003). Untitled part 3b: (as if) beauty never ends [Moving image] | 11 |
| Figure 4. Sheikh Lutfollah Mosque [Photo: Author, 2012, Isfahan-Iran] | 17 |
| Figure 5. Friday Mosque (Masjed-e-Jameh Jam) [Photo: Author, 2010, Yazd-Iran] | 18 |
| Figure 6. Kamāl ud-Dīn Behzād (1494). A Caliph in His Bath [Illustration] | 19 |
| Figure 7. Friday Mosque (Masjed-e-Jameh Jam) [Photo: Author, 2011] | 32 |
| Figure 8. Filming process [Photo: Tina Engels-Schwarzpaul, 2012, Isfahan-Iran] | 43 |
| Figure 9. Friday mosque (Masjed-e-jameh Jam) [Photo: Author, 2011, Yazd-Iran] | 46 |
| Figure 10. Sheikh Lutfollah Mosque [Photo: Author, 2012, Isfahan-Iran] | 47 |
| Figure 11. Dome of Imam Mosque [Photo: Author, 2012, Isfahan-Iran] | 49 |
| Figure 12. Section of Talismanic Scroll (11th - 12th century)[©Metropolitan Museum of Art, New York, Online access, April, 2014] | 51 |
| Figure 13. Foliated Kufic [Photo: Author, 2011, Jame Mosque Ardestan-Iran] | 51 |
| Figure 14. Linear and Divine time according to Substantial Motion [Drawing: Author, 2013] | 65 |
| Figure 15. Substance, visible and invisible according to Substantial Motion [Drawing: Author, 2013] | 67 |
| Figure 16. Substantial Motion [Drawing: Author, 2013] | 69 |
| Figure 17. Bergson's diagram of "Recollection Image" [In Deleuze's Cinema 2 (1999)] | 77 |
| Figure 18. Looking through [Photograph: author, 2011, Masjed Jameh, Nayeen-Iran] | 81 |
| Figure 19. Moving Tiles [Video: Author, 2011] | 83 |
| Figure 20. Through a Dot [Video: Author, 2013] | 102 |
| Figure 21. Lighted Tiles [Video: Author, 2013] | 103 |
| Figure 22. Pink Dot [Still from video: Takeshi Murata, 2007] | 104 |
| Figure 23. A pixel from the video "Through a Dot" [Video: Author, 2013] | 107 |
| Figure 24. N:O:T:I:N:G [Film: Paul Sharits, 1968, Still from Film-Anthology Film Archive] | 111 |
| Figure 25. Mobile video by Zaid (2012) | 112 |
| Figure 26. Chehel Sotun (Forty Columns Palace) [Still from Video: Author, 2012] | 113 |
| Figure 27. The Gaze [Video: Author, 2010] | 121 |
| Figure 28. Bazar of Tehran [Stills from series of video: Author, 2010] | 123 |
| Figure 29. Community of Bodies/Frames. No man's land [Exhibition: Author, 2010, St Paul Gallery, Auckland-New Zealand] | 125 |

| | |
|--|-----|
| Figure 30. Sassanian plate and coins [Photo: Author, 2011, National Museum, Tehran-Iran] | 127 |
| Figure 31. Left: Mihrab from Nayeen Mosque (10 th century) [Photo: Author, 2011] | 128 |
| Figure 32. Right above: patterns from Jameh Mosque (11 th Century) [Photo: Author, 2011, Ardestan-Iran] | 128 |
| Figure 33. Right below: patterns from Nayeen Mosque (10 th century) [Photo: Author, 2011, Nayeen-Iran] | 128 |
| Figure 34. Dome of Jameh Mosque (11 th century) [Photo: Author, 2011, Ardestan-Iran] | 129 |
| Figure 35. Moving tiles:patterns of Friday Mosque [Video: Author, 2011, Yazd-Iran] | 130 |
| Figure 36. Dazzling Patterns: Dome of Friday Mosque [Video: Author, 2011] | 131 |
| Figure 37. Living mosque: Friday Mosque as a live fiction [Video: Author, 2011] | 133 |
| Figure 38. Video documentation [Stills from video: Author, Yazd, Ardestan, Nayeen-Iran, 2011] | 134 |
| Figure 39. Video documentation [Stills from Video, Ardestan, Nayeen-Iran, 2011] | 135 |
| Figure 40. Screen-pixel [Video: Author, 2010] | 139 |
| Figure 41. Zooming into the videos (1000 to 5000 time zoomed in) [Video: Author, 2011] | 141 |
| Figure 42. Society of pixels [Video: Author, 2011] | 143 |
| Figure 43. Pixelated dome [Video: Author, 2011] | 144 |
| Figure 44. Pixels upon pixels [Photo: Author, Sheikh Lutfollah Mosque, Isfahan-Iran, 2012] | 146 |
| Figure 45. Magnifying a video under microscope [Still documentation: Author, 2012] | 147 |
| Figure 46. Patterns of Friday Mosque [Photo: Author, Yazd-Iran, 2011] | 149 |
| Figure 47. Living-moving pixels [Video under microscope: Author, 2012] | 150 |
| Figure 48. Bodies and tiles [video: Author, Sheikh Lutfollah Mosque, Isfahan-Iran, 2012] | 151 |
| Figure 49. Three pixels [Video Installation: Author, Auckland – New Zealand, 2013] | 152 |
| Figure 50. Three stages of a pixel in Pixel Picker [Screen shot: Author, 2013] | 153 |
| Figure 51. Pixels of the Living mosque [Video: Author, 2013] | 154 |
| Figure 52. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014] | 155 |
| Figure 53. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014] | 156 |
| Figure 54. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014] | 157 |
| Figure 55. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014] | 159 |
| Figure 56. Motion within motion [Exhibition: Author, St Paul Gallery, Auckland- New Zealand, 2014] | 162 |
| Figure 57. Motion within motion [Exhibition: Author, St Paul Gallery, Auckland- New Zealand, 2014] | 163 |
| Figure 58. Video by Zaid [Entrance to the exhibition: St Paul Gallery, Auckland- New Zealand, 2014] | 164 |
| Figure 59. Blue tile. Friday Mosque [Video: Author, Yazd-Iran, 2011] | 165 |
| Figure 60. Language of the birds. Miniature illustrated in Herat by Ustâd Habîbullâh Mashhadî (1609) | 174 |
| Figure 61. Imam Mosque [Photo: Author, Isfahan-Iran, 2012] | 177 |

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Ethics Approval

This research received approval from AUTECH on 9 January 2012, for a period of three years until 22 December 2014.

² The Ethics Application Number is: 11/329

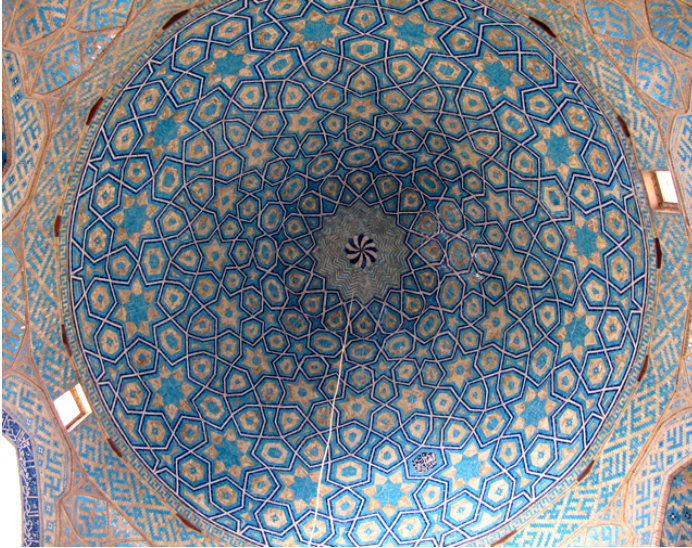
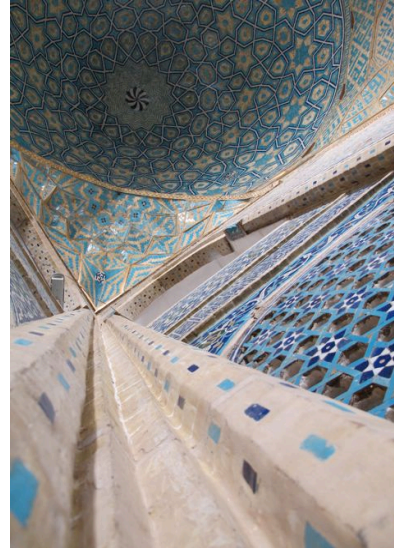


Figure 1. Dome of Friday Mosque (Masjed-e-jameh jam) [Photo: Author, 2011, Yazd-Iran]



1. The point of opening (Introduction)

1.1 Encounters and their implications (Positioning and contribution to knowledge)

In 2011, I sat in a corner of the dome of the Friday Mosque in Yazd in Iran, pondering the issue of shifting between perceptible and imperceptible elements in digital video, which I was to explore in my PhD research. Could the concepts of time and motion that had informed this building, I asked myself, also help move beyond the image surface to explore transformation and change? My eyes found no rest between the people in the mosque and the lines emanating from the centre point of the dome, forming star-like patterns. These moving lines enticed me to stand and to turn, looking up into the dome. Soon, there was no line or figure any longer, and the surrounding space seemed to melt into a mesh of colours and lights. In between, there were glimpses of forms on the edge of appearing, but they were never fully realised.

A year later, I visited Zaid,¹ an Iranian refugee in Germany, and watched a 40-second, low-resolution video on the screen of his mobile phone – over and over again. There wasn't much to *see*: only movement and noise and distortion. Yet, there was something intriguing about these images that were never made to be viewed publicly; rather, the video was shot in a desperate moment, when its maker felt the threat of death. To me, much more important than a representation of this event was a combination of knowing the circumstances leading to the shooting and the material, sensory quality of the video itself. Indeed, it would have been impossible to represent the event itself. This impossibility of representation is what the video shares with the patterns of the Friday Mosque dome: they are (like other Islamic arts) based on the impossibility of representing the Divine. Instead, they suggest a sensory experience connecting viewer and creator.

¹ Zaid is not his real name but a name that is often used for human examples in Islamic philosophy.

While these very different settings involve equally dissimilar media and experiences, they both involve intricate changes through motion – produced, in one case, by static patterns and, in the other, by moving image. Both engaged me in similar, real and embodied experiences: I connected to both works through my senses, and both works gave me a sense of, and an interest in their underlying causes (in one case, Divinity, in the other, socio-political conditions). Even though I did not *know*, I felt part of the experience and drawn to it even further. I wondered, how could these experiences apply to moving image-making and could they help to avoid the clichés often attached to representation?

In his work, Persian Islamic philosopher Mulla Sadrā Shirazi (c. 1572-1640) considered time and motion, existence and reality. One of his central concepts, *Al-harakat al-jawhariyy* (Substantial Motion, see p. 15), is about an invisible transformation taking place continuously in the inner structure of entities. Sadrā questioned appearances in order to move beyond the already known and to recognise becoming and change. What we see as an image is always only a small part of reality, and whatever enters human understanding is then subjected to abstraction in the process, which Sadrā considered unhelpful for understanding.

This idea formed a springboard for my research project and provided the opportunity to move beyond the surface of the image to explore an opening of perception for new ways of understanding. Substantial Motion, it seemed, could inspire creative approaches to looking at the world and to moving-image making. It could perhaps also be helpful for an innovative understanding of digital media. For example, pixels could be seen as minimal parts constituting a whole that is always in a process of becoming. For my research, the relationship between minimal part and whole (in the extreme case, the universe) was articulated between pixel and frame, but also between individual and society, or a leaf and a tree. In all these relations, the minimal part's movement and change can shape and reshape experience. Substantial Motion helps to understand changes in the relationships between pixel and image, individual and collective, but also, less directly, between an image and the outside world, as I will explain.

Substantial Motion is based on change and intensification (a qualitative more-or-less); new perceptions constantly become available through the appearance of the previously invisible. In digital video, pixels (minimal parts) are important and interesting because they are normally invisible and constantly change

within frames. Minimal parts can, of course, be studied beyond digital video, through aspects of time, motion, and change, as well as through relationships between the frame and the ‘real world’.

In grappling with those relationships, I found a bringing-together of Sadrā’s Substantial Motion with Deleuzian concepts useful. For instance, one can think about figurative and non-figurative in terms of *molar* and *molecular*. The molar is body as form, while the molecular as an underlying system lacks form and structure. However, molar and molecular are interrelated dimensions, in constant “interplay, movement, and passage between form and non-form” (Del Rio, 2008, p. 27), and the interplay itself generates form. In cinema, Giles Deleuze considers the molar plane as “*narrative action*”. Figures, for example, represent or narrate something (Deleuze, D. W. Smith, 2002, p. 79).² The molecular, for its part, is the process of becoming, or “*affective performative events*” (Del Rio, 2008, p. 27) in which affect, as a force of becoming, moves one state to another. The non-figurative, like the molecular, allows through its lack of form a space for imagination and interpretation.

Social and political contexts have both molar and molecular planes. Generally, politics happens at the molar level, “at the level of the binaries and macrostructures of social systems” (Del Rio, 2008, p. 115). But there is a micro-politics, working at the molecular level, which energises the molar level; it “takes place outside or beyond the fixity of subjectivity and the structure of stable unities” (p. 115). If the Friday Mosque dome *and* the video Zaid took on his mobile work at the molar level, giving visual satisfaction through form and meaning, they also work at the molecular level of sensory experience – settling and unsettling, disappearing and reappearing. This seemed to suggest that a micro-politics at the molecular level, constantly destabilising the molar by moving between figuration and non-figuration, could energise digital video in my thesis research.

In summary, this thesis seeks to address the following main questions: How can classical Persian-Islamic and contemporary Western concepts of time and motion help us move beyond the surface of the image in digital video practice, to explore transformation and change? How can philosophy (e.g., Substantial

² The terms figurative and representation both relate to the molar level, and so does cliché as a Deleuzian term. Cliché, as a form of habitual perception, has connections with Sadrā’s abstraction.

Motion) and creative practice (e.g., video-making) work together to explore questions about the relationships between minimal part and whole, pixel and frame, and the whole and the universe, avoiding the abstraction of academic discourse? Which role can movement and constant change at the molecular level play in creating new point of views and experiences on the molar level?

The research crosses over Persian Islamic and Western philosophy, transnational media arts and digital video in new ways. In this border crossing, Sadrā's philosophy is significant for video practice *and* theory. Particularly pertinent are: his view of invisibility and simplicity as being more real; his view that the experience of time and motion is an intrinsic part of each being; his acknowledgement that all existing entities have particular experiences of the universe and the Divine.³ What, then, would be a minimal part's *point of view* in this scenario, for example, and what would a pixel experience?

Whereas most contemporary transnational video works, even as they challenge power structures, contribute to a consolidation of media clichés (see p. 7), this research withholds political commentary at the molar level. Instead, it seeks to develop a new understanding of Sadrā's thought that cannot just be thought but can also be practiced as digital video-making. In the process, my research produced a useful understanding of the nature of digital video by exploring the properties of digital media (pixel, frame and outside of the frame). Through practice, and by moving beyond the surface of the image, the research highlights creative possibilities for recognising the constant change of interconnected things. This not only includes social units, for Sadrā's ontology also stresses interconnection also between non-human entities. The latter have been marginalised in Western philosophy and are only presently rediscovered by new materialists and post-humanists (see Van der Tuin & Dolphijn, 2012). Sadrā's thinking also has affinities with process philosophers like Bergson, Whitehead and Deleuze. Exploring those touch points between classical Persian-Islamic and contemporary Western thought, this research aims to further dialogue between Middle Eastern and Western cultures.

³ There are other concepts in Sadrā's philosophy, such as *imaginal realm*, and *four journey*, which were not possible to cover in the scope of this research, but which merit further research. His philosophy is exciting for the field of digital media and art practice.

The research also considered the question of a pixel's 'being' in the process of change, or in the context of a 'becoming' that is part of Persian Islamic traditions. Through such considerations, it contributes to the theory and practice of digital video and media art, as well as to more general transcultural perspectives. While the exegesis mostly addresses the scholarly community, the practice is aimed at a wider public, including digital media artists.

1.2 Points of relations and inspirations (Placing the practice)

In 2004, I saw an exhibition by Iranian-American artist Shirin Neshat at the Auckland Art Gallery. Her monumental works were aesthetically stunning and powerful, but they disturbed me greatly. Born after the Iranian revolution, and only recently immigrated to New Zealand, I felt Neshat's work did injustice to the people of Iran and their culture. I could not see how the way in which she presented the issues to Western audiences, such as the separation of men and women in Islamic Iran, could possibly help Iranian people with their own struggles. Neshat is not the only artist dealing with her diasporic position in the West, and her relationship to her country of origin in an overtly political but clichéd manner. Artists such as Shadi Habiboallah and Zeinab Sedira, for example, visualise their narratives of the region using what has become stereotypical imagery (such as the veil and rigid separation between men and women).⁴

The work of other Middle Eastern video makers, in particular, afforded a foil for my own work, providing challenges and raising questions. Positively or negatively, they influenced my direction and decision-making processes during the course of this research. Some of these works will be discussed in more detail in the coming chapters concerning digital video and my practice. What I would like to provide now is an overview of the field within which my practice is positioned, amongst video artists who draw on the traditions of Islamic thought.

Rather than directly confronting current issues in 'the Muslim world' and/or the space between cultures, I employ Persian Islamic concepts creatively through the medium of moving image. In my research context,

⁴ Mohsen Makhmalbaf, Akram Zaatari, Khalil Rabah, Mahmoud Bakhshi, and Shahab Fotouhi do not necessarily use this stereotyped imagery but their work lends itself to fashionable, exotic polarisation.

“Persian Islamic concept” usually refers to early Persian Islamic worldviews and philosophies, such as Substantial Motion (*al-harakat al-jawhariyya*). As an image-maker, the image is my main medium of investigation and communicator of ideas. However, my thesis is also located amongst experimental video arts, for it aims to operate not only at the level of the image, but also of process and becoming, always informed by traditional Persian-Islamic concepts and art. In applying and developing aspects of classical Islamic culture and concepts, my work aims to stimulate dialogue and interest in traditional Persian Islamic art and worldviews.



Figure 2. Shirin Neshat (1999), *Rapture* [Stills from video installation]

In this, it is difficult to resist representational stereotypes, when the media encourage these in their presentation of the ongoing political struggles between the West and the Islamic world. While Muslims in the Middle East currently encounter increasing social and political tensions, Muslims in the West face negative prejudices and media representations that cause their increasing social isolation (Zaidi, 2006). Since 9/11, many Western art institutions and organisations have paradoxically shown an increased interest in contemporary art from the Middle East, and art by Middle Eastern artists in exile (Winegar, 2008). It is then surprising that there are only a few moving image works by Muslim artists that draw on Islamic concepts and aesthetics, even though, as film theorist Jalal Toufic notes, contemporary cinematic techniques are “very close to the predominant Islamic conception of time”, about which “little has been

written” so far (1999, p. 56). This conception involves processes of renewal and perpetual creation, appearance and disappearance into and out of actuality (p. 56-57). The growing importance of process philosophy in Western discourse might be associated with elements in Western culture that have an Islamic genealogy and a sustained investigation of Islamic art may help us examine contemporary media arts (Marks, 2006, p. 37).⁵

My research and practice are not intended to inform or conform to Western perspectives, or any other dominant views. Instead, it is concerned with some of the rich, but almost eradicated, history and culture of the Iranian people. However, I am aware of the possibility of, or even tendency towards, a misreading of my work –misrepresentations of certain Islamic concepts or images (such as the veil or iconoclasm) are all-pervasive in the media today and trigger certain automatic associations in broad sectors of Western audiences. For example, there is always the somewhat clichéd view concerning the ban of figurative depictions in Islamic art to be considered. From a Western point of view, one would expect tensions in my own practice to do with theological prohibitions of using realistic figures under certain conditions: use or avoidance of figures might be read in that way. However, it must be noted that these interdictions are not absolute; portraits and other human depictions can be found in books of poetry and history illustrated with miniature paintings, or in the late medieval Iranian depictions of the life of Mohammed (see Flood, 2002, pp. 644-648). As an image-maker, I personally have no concerns with the use of figuration, and my project neither questions nor endorses Islamic views of figuration. The work evolving out of my practice moves between figurative and nonfigurative, perceptible and imperceptible elements.

From this in-between position, I approached ancient Persian Islamic arts and their underlying concepts to explore the potentials of moving image. Through the exploration of these traditions, my research develops new perspectives on traditional Persian Islamic imagery and advances, through the theoretical and practical engagement with the philosophy of Sadrā, an understanding of the relationship between unit and unity and universe, or: a pixel, the frame and the world.⁶

⁵ See also Blair and Bloom (2003),

⁶ Using traditional Islamic philosophy for creative thinking and making, I hold a respectful position toward theological aspects.

Many transnational artists and filmmakers use moving image to see and communicate experience from unfamiliar points-of-view (Naficy, 2001),⁷ even when they employ mostly representative and figurative elements. The camera can cause alienation from normal perception and introduce new aspects to human perception (Deleuze, 1986). These capacities are tested further within the scope of my research, and specifically in relation to the digital video with its possibilities of pixelation, variation of speed or rate of change, and layering of images.

For someone in exile, diverse worlds constantly overlap. For Edward Said, double vision is an inescapable experience of exile, its ambivalence generating new dimensions (Said, 2000, p. 148). Exilic and diasporic states afford few stable perspectives. The inherent uncertainty of exilic space destabilises perception and culturally specific understanding of events (see McCarthy, 2005). Phenomenological and representational approaches, with their centrality of human perception and interpretation, have limited capacities to render and explore exilic existence. Locating the individual at the centre of the world, Western phenomenology begins with a human point of view (Sobchack, 1991). Maurice Merleau-Ponty (1969), for example, is typically concerned with human experience of the sensible universe and limited to the universe as we can know it. While the human position is, of course, important for an understanding of human experience of the world, I am also interested to explore how we may expand our perception and reach that of others. Sadrā's philosophy has energised my research, because he gives credit to the experiences of all entities, not only human beings.

Islamic philosophy considers invisible (e.g., intelligible and imaginal) realms, of which the Divine is the most important. For Sadrā, in particular, these other realms directly influence our existence in the material universe, and vice versa. They can expand our view on existence and being, to include as-yet unseen possibilities and experiences. They also provide different perspectives on our and other beings' experiences of both the sensible universe and the invisible realm of the Divine. In this way, Sadrā's approach pushes the boundaries of Western phenomenology. It allowed me to consider phenomena in the digital realm as new entities, with experiences beyond the visible and sensible world. Every existing entity in the visible material world, as a manifestation of the Divine, is ontologically linked to the Divine. Through this link,

⁷ Amongst them Abbas Kiarostami, Mohsen Makhmalbaf, Jafar Panahi, Elia Suleiman, Moham Daradj, Shawkat Amin, and artists such as Mona Hatoum, Shirin Neshat, Kader Attia, Leyla Pazoki, Shadi Ghadirian, Sara Rahbar, and Noel Jabbour.

every existing entity (living and non-living) is part of a field of visible and material, as well as invisible and immaterial possibilities. Each one has particular experiences of the universe and the Divine and, hence, is able to expand our perception beyond representation.

This was important to my project since representational approaches may run the risk not only of reinforcing human-centric views but also of appealing to well established clichés, thus settling rather than unsettling predominant power structures. In *Rapture* (1999), Shirin Neshat used Middle Eastern Islamic references to articulate issues of power, control and gender in Iranian society. Since audiences are likely to read her work through information already provided by the media commentary, her practice may even intensify stereotypical images of Iranian culture and society. By contrast, an ambiguous and unfamiliar subject matter, which nevertheless could be part of a viewer's life, can evoke sensations and experiences connecting viewer and viewed. Mona Hatoum's *Corps Étranger* (1994), for instance, shows flesh that could be anyone's. Her otherness is visually indistinguishable and only in retrospect labelled as "other" (Jones, 2006, p. 157). Striving not to be limited to representation and the transmission of information, therefore, my research project investigates pixels as perceptual units in relation to Islamic concepts. It explores moving image at the level of becoming, in states of transformation and change, aiming to open up new ways of seeing and thinking by drawing from the philosophy of Sadrā.



Figure 3. Jayce Salloum (2003). Untitled part 3b: (as if) beauty never ends [Moving image]

Particularly in the first year, my approach was influenced by similar mechanisms as those on which Lebanese-Canadian video-artist Jayce Salloum bases his work who reuses his own archived films.⁸ The material for *The Untitled Tapes* (1999-2004) was stored in Salloum's studio for years, untouched. The final

⁸ "In the archive (and outside of it) all viewing is incomplete in the sense of having seen all, but also in the sense that this is a living entity, it rumbles along indefinitely, growing in stops and starts, mutating" (Salloum, 2007, p. 11).

work is “an ongoing video tape without an end” (Salloum in Hoolboom, 2008a, p. 186), several hours long, which uses visuals and interviews with refugees in Lebanese and Palestinian camps (Hoolboom, 2008b). Often, the gap between recording time and production time delineates the direction of Salloum’s final work. The material for *Untitled part 3b: (as if) beauty never ends* (2003) was originally recorded in Lebanon in 2000. In 2003, the Israeli army attacked the Palestinian town of Jenin and its refugee camp in the West Bank. At that point, in response to the events, Salloum decided to use small parts of the 40-hour body of video to develop a work for exhibition. The time interval between the original recording and the time of revisiting the original videos became apparent (Hoolboom, 2008a). The original tapes were not art for display; rather, they were a progression, a research, or a work in the process of becoming, “an active living archive”(Salloum in Hoolboom, 2008a, p. 186). It joins different, and yet similar, spaces and moments. The passage of time changes an existing tape, and its rereading can help reveal what is immanent.

That it is impossible to escape time becomes evident to people who cross borders and leave behind a significant past to acquire transcultural experiences. It is also manifest for those who stay in their country of birth, in conflicting situations that make them feel like strangers in their own country. Time then ceases to appear smooth and ongoing. This disjointed quality of time is noticeable in many works by Middle Eastern media artists in exile. Their experimental videos often present both continuity and the fragmentary quality of time: even works that deal with current conflicts often use images from a time before the conflicts began and thereby suggest memory, of a time that has passed. When they overlay images, change speed of video images, and juxtapose contradictory scenes, these techniques can be read in terms of exilic experiences with their feelings of separation. Video makers reconnect through moving image with their past, their origin. Yet, their experiences of place manifest often in fragmentary forms and without much continuity. Nevertheless, beneath the fragmentation and disconnection lies, according to Sadrā, a deeply connected matrix and a continuity of time and experience.

Mounir Fatmi’s *May God Forgive Me* (2004) shifts viewers between memory and reality, and between feeling connected and disconnected. Constant shifts in imagery produce a disturbing experience: a dancing woman (within a circle of men) is cut against images of war; images of physical intimacy appear between abstract lines and figures. This unstable layering of images, like a horrifying dream, creates a sense of repulsion, causing disconnection or an inability to connect. Figures are almost always silhouetted or

distorted, there is no possibility of recognising the faces. The lack of recognition prolongs a vicarious experience of trauma. This *escaping from the figure* is more present in *Realisation* (2007)⁹, which beautifully connects the viewer with an unfolding and refolding point, within a formation of moving and dancing lines, which eventually merge into Arabic letters and then figures, all formed by and returning to a single point. Fatmi's use of the point in relation to letters and figures was influenced by the significance of the point in Arabic calligraphy. *Realisation* brings to mind the Sufi view in which a point can contain the whole universe (Marks, 2010a, p. 254).

To summarise, the wider practice context of my project is influenced by the video art of diasporic Muslims and Middle Eastern artists, such as *Transit* (2004) by Taysir Batniji, *Dieu me pardonne (May God Forgive Me)*, 2004) by Mounir Fatmi, *Wet Tiles* (2003) by Lamya Gargash, *Allahu Akbar* by Usama Alshaibi (2003), *From Beirut With Love* (2006) by Wael Nouredine, *Saving Face* (2003) by Jalal Toufic, and *Don't Do To Her What You Did To Me* (1998-2001) by Zineb Sedira. These videos engage with issues surrounding the misrepresentation of Muslims and the complexities of the Islamic world. Concerned with questions of politics and aesthetics, they involve themes of time, culture, displacement, immigration, tradition and modernity. While not discussed in great detail in this thesis, my initial experience of disconnection (moving from one country to another) significantly influenced my practice.¹⁰ It inspired my efforts to look for connections beyond the frame.

The notion of *minimal part* is essential to my research practice. As the smallest part of a whole, it moves across digital video and other contexts constituted by an agglomeration of small parts outside the digital realm. Some digital artists, such as Ryoji Ikeda, Jim Campbell, John F. Simon Jr., and Titia Ex, have already used units such as pixels.¹¹ However, while these artists and video makers have created their own

⁹ See *RESISTANCE[S]: Experimental films from the Middle East and North Africa* (Artists, 2006)

¹⁰ See my Masters thesis; *Sokout - 1388: Body in the space of border* (2009).

¹¹ Influenced by digital media, *Pixels* (2011), by Taysir Batniji, is a 38 x 28 pixel (19.5 x 14.5 cm) drawing based on a pixelated image of a blind man, which draws a connection between digital media, minimal parts and the individual, as minimal part. A similar concept, but on a bigger scale, can be seen in the works of Craig Alan, such as *Marilyn Monroe* (2012), who choreographed people as pixels within an image. Although none of the aforementioned artworks directly deal with digital media, they suggest connections between minimal part and individual. My practice explores this connection within the medium of digital video. Other artists have deployed the repetition of

units/pixels in software programmes, my approach consists of drawing on existing pixels and their inherent qualities and movement in the moving image material that I produced over the course of the research project.

While thinking about traditional Islamic art forms that are made up of minimal parts, embroidery (including cross stitch), mosaic arts and tiling come to mind. These arts involve long and laborious processes of constructing images out of small units. The production of pixels in digital media, in which small coloured squares of pixels form images, may not appear as laborious as traditional art, but that is partially because the programmers' labour is concealed within the final image. *Une Génération de femmes* (1997), by Zineb Sedira, though not concerned with digital media, applies a similar method. The repetition of small hand-printed units forms a large piece of wallpaper. Its Islamic motifs and the method of repetition bring to mind Islamic architectural tiles. Similarly, Parastou Forouhar's installation, *Thousand and One Days* (2003), presents wallpaper that plays with the experience of perception from close-up and far away. From afar, the wallpaper appears decorative, but, as one gets closer, 'free-hand drawings' created by a computer, appear that evoke a sense of torture. The work also suggests a connection with abstract figures, resembling earlier Persian miniatures, and their possible connection to real events.

1.3 A miniature of the universe (Traditional precedents)

In Islamic architecture, the dome can be seen as a mirror of the cosmos and its beauty, hiding *and* exposing Divine beauty. The apparent universe of multiplicity, God's "infinite visible symbols" (Barry, 1996, p. 40), can be both leading and misleading, revealing and obscuring, like the "polychromatic adornment on a mosque's wall" (p. 40). Connecting the dome to the cosmos, Barry likens the geometric network across the walls and domes of a mosque to Qu'ranic interpretations of the spider web (pp. 39-41). In *Ankabut* (meaning The Spider, that is also a title of a section in the Qu'ran), the dwelling of a spider is most fragile and untrustworthy. However, according to Islamic traditions, the web is also protective; once, when the Prophet fled from his enemies and took refuge in a cave, a spider quickly shaped a web over the cave's entrance, tricking the enemies to think the cave must be empty. The maze-like quality of the universe

some other minimal part in drawing or photography (e.g., Taysir Batniji and Craig Alan; see Appendix (cf, pp. 188 ff) for further discussion of art works).

resembles the spider web; it reveals God's manifestation while concealing Him. Likewise, the interconnected forms and shapes of the patterns on the dome and its surrounding parts are reminders of systems like the spider web and the universe. Every entity in the universe, and so every element of the mosque, enfolds layers of meaning. Each can reveal aspects of the Divine reality. An individual's attention can be occupied by an ornament's external beauty, but s/he can also experience the deeper layers of meaning through contemplation.

The symbolic meanings of patterns, colours and Quranic calligraphy inside the mosque resemble the multiple layers of meaning in Persian miniatures, which traditionally illustrated manuscripts. Both the mosque patterns and the miniatures can be thought of in analogy to the universe, which constitutes entities that have many meanings and relate to all other elements (Barry, 2004, p. 37). A mosque and its interior can be seen as a miniature of the cosmos, where the figures of people are in harmony with the other elements contained.

My images from the Shaikh Lutfollah Mosque in Isfahan (1619) and the Friday Mosque of Yazd (1324) (figs. 4&5) show individuals that are hardly distinguishable from their surroundings – they blend in with the mosque interior and its patterns. They remind me of some of the miniatures by Persian painter Kamāl ud-Dīn Behzād (c. 1450–c. 1535), such as *A Caliph in his Bath* (1494) (see fig. 6) in which human figures are not detached from their surroundings (Barry, 2004, p. 37). Through equal attention to the different forms and the use of unmixed colours, they are hardly distinguishable from the environment. It is only when we recognise them as figures and choose to consider them as “living figures” that we distinguish them from the rest (pp. 34-40).



Figure 4. Sheikh Lutfollah Mosque [Photo: Author, 2012, Isfahan-Iran]





Figure 5. Friday Mosque (Masjed-e Jameh Jam) [Photo: Author, 2010, Yazd-Iran]



Figure 6. Kamāl ud-Dīn Behzād (1494). A Caliph in His Bath [Illustration]

To consider the mosque as a miniature of the universe might seem contradictory to the general perception of the visual aesthetics and qualities Persian miniatures in Western art history. They are more than just symbolic representations at a small scale. Some of the general qualities of Persian miniature paintings (lack of depth, perspective, and shadow, flat surfaces and pure colours, see Grabar, 2000) make these still representational or figurative paintings appear alienated from contemporary Western views of the universe. The images seem dream-like, or from a fairy tale. “By remaining on another plane, and yet possessing a life and movement of its own, a miniature is able to have a contemplative dimension” (S.H. Nasr, 1987, p. 181).¹²

¹² Because of its symbolic qualities, Nasr considers the miniature in relation to a realm known as *Alam al-khayal* (also known as *Alam al-mithal*), the intermediary world of imagination, or the “imaginal realm”. The faculty of imagination is connected to the active intellect which, in the Islamic Neoplatonist view, is the emanation of God. Man can approach God by entering the domain of the active intellect (Azadpoor, 2006, p. 183-84). In the imaginal realm, things are perceptible without extension or mass. “In the world of ideas, things and beings have shape and quantity but no matter. They are posited between intellectual and sensible worlds” (Ardakani, 2006, p. 174) where things can be perceived, but not touched. Although a detailed discussion of the notion of “imaginal realm” (*Alam al-mithal*) is not within the scope of this thesis, it is a great source for scholarly creativity in art and image-making and suggests great potential for further research. It must be noted that the concept of imaginal realm is not common across Islamic philosophy, though the imaginative faculty is common in Peripatetic (Greek-influenced) thought.

By moving between figuration and non-figuration, miniatures stimulate the imagination. Avoiding the familiar Western representation of a three-dimensional universe (e.g., perspective lines) but still rendering tangible and recognisable elements (e.g., forms and colours), a miniature stays in a realm that is neither representational nor nonrepresentational, neither from this universe nor from another, unfamiliar one.

This research considers an analogy between images of coloured tiles of Persian mosques in the age of Sadrā (ca. AD 1571-1640) and pixels as digital tiles of contemporary moving image. Juxtaposition suggests complementarity qualities between Persian 16th to 17th century tile craft and contemporary work with digital ‘tiles’.

Traditional Persian tile design (as in the dome of Imam Mosque in Isfahan) suggest, through visual illusion, constantly moving patterns. Yet, the tiles themselves remain immobile, not unlike the blinking pixels of video; still and motionless, they yet afford an experience of movement. Their seemingly stationary state does not mean that tiles and pixels lack movement and experience as beings. Of course, one could say that it is humans who project life and movement into tiles. However, Sadrā challenges this perception by arguing that each existent entity is a manifestation of divine attributes, with its own particular experiences of the universe. And, indeed, 17th century craftsmen made tiles to express the Divine. They created works with multiple layers of meaning, which each person could experience from the viewpoint of his or her being. One would be satisfy with a superficial technical artistry of tiles and patterns of art. Another would contemplate a deeper meaning of the whole work, beyond the surface design, and a vaster and profound vision. This latter attitude can also illuminate our perspectives on cinematic pixel-based imagery. Thus, my research deploys pixels, the contemporary tiles of digital video, to expose what is not apparent in the overall frame of the moving image.

1.4 Points of contact (theoretical framework)

In this exegesis, the review of existing scholarship is integrated into the discussion, and there is no separate literature review chapter. However, in this section, I will give a general overview of the main theoretical texts I have used or that have influenced this research.

1.4.1 *Introducing Mulla Sadrā, his approach and the political conditions of his time*

Ṣadr ad-Dīn Muḥammad Shīrāzī (c. 1572-1640), mostly known as Mulla Sadrā, is the most significant Persian Islamic Philosopher after Abu Ali Ibne Sina (c. 980-1037, known as Avicenna in the West, see Oliver Leaman (2002)). Compared with Islamic thinkers such as Ibn Sina (c. 980-1037), the Sufi master Ibn Arabi (1165-1240 AD), and Shihab al-Din al-Suhrawardi (1154-1191 AD), the founder of an Illuminationist (ishraqi) tradition in the Islamic East, Sadrā is not well known in the West. Neither has Sadrā, unlike other Persian Islamic philosophers, until recently been widely known in the Islamic West (the Islamic West¹³ is considered mostly as Sunni while Sadrā is influenced by Shia) (Leaman, 1996, p. 658). However, since the 1930s, scholars of Islam like Henry Corbin and Seyyed Hoseyn Nasr have brought attention to Sadrā's philosophy, which is deeply rooted in ancient Persian thought. Sadrā scholar Sajad Rizvi notes that he "was a central player in that flowering of Persianate culture under Safavids that is a feature of the 'period of gunpowder empires'" (2009, p. 4). Sadrā kept the thread of Persian culture running through philosophy during the Safavid era, by using the Illuminationist tradition in which is ingrained on the Zoroastrian worldview (S. H. Rizvi, 2009).

Sadrā worked during an era when philosophy was a significant and respected institution in Iran (Jambet, 2006). Sadrā was considered a radical philosopher, though, whose ideas challenged the power structures and theologians of his time, who were mostly under Safavi's influence. Sadrā drew from a number of pre-Islamic (Greek) as well as Persian Islamic philosophies, and brought together four major schools of Islamic thought and theology: the metaphysics of Ibne Sina, Sufism of Ibne Arabi, Ishraq of Suhrawardi, as well as Shia theology. While he integrated aspects from all schools in developing his own theories, he also questioned and disagreed with parts from each school (S. H. Rizvi, 2009, p. 20). His method, radical at the time, combined philosophy and Gnosticism, discursive rationalist approaches and poetics, and intuitive and mystic ways of knowing. His radical views towards theology resulted in his exile. Due to the political influences of his father at the Safavid court, he escaped execution, but he was asked to choose between loyalty to the Safavid or withdrawing from society. He chose the latter and lived with his family in voluntary exile for more than a decade, in a small settlement near the Iranian city of Qum (M. Kamal, 2006,

¹³ Islamic West is considered to be "Andalusia (Muslim Iberia) and the Maghreb (Western North Africa)" (Leaman, 1996, p. 294).

p.3). Before settling there, he had to move between small towns and villages in the desert with his family for a long time. The Four Journeys (al Asfar), Sadrā's most important work developed in exile, includes his theory of Substantial Motion.

Sadrā's inclusive approach extended traditional Aristotelian *substance* philosophy to an Islamic Neo-Platonism of process metaphysics. Sadrā questioned the concept of reality by considering the existence of *being*, instead of *essence*, as primary. This was a significant departure from Aristotle and Ibn Sina's concern with essence. He proposed that previous philosophers mistook *essence* for the being that is in a constant process of becoming. Sadrā rejected the practices of forming mental concepts (abstraction) or the representation of being, and suggested that representation can never fully replicate and show the *reality* of its subject. To understand the truth of being, he proposed, one needs to move beyond abstraction, beyond appearance. However, philosophical and intellectual enquiries are not sufficient to do so. Instead, intellectual enquiry is necessary, in addition to intuitive knowledge and practical experience (S. H. Rizvi, 2009). Thus, for his approach, philosophy and mysticism/gnosis are wedded.

Furthermore, in congruence with classical Persian society, for Sadrā, philosophy is a form of life. It should care about social problems and engage with the public. Through practices of mysticism, along with intellectual enquiry, philosophical ideas are to be adapted creatively, as a way of life. During a discussion with Sadrā scholar Dr. Golam-Reza A'awani about social life and arts during Sadrā's time (25, 08, 2012), my attention was brought to the notion of a unifying soul in classical Persian society. This soul (Divinity or unity of God) led to the growth of philosophers like Sadrā, as well as the arts evident in the Sheykh Lutfollah Mosque (1619) in Isfahan-Iran. It provided a fertile platform for individual thinkers and creative minds which, in turn, harmonised different aspects of society into a single whole. People strove to unfold and involve Divinity in their daily lives. Philosophy, science, art and architecture, as well as the ordinary lives of people, became deeply integrated with each other. To understand the art and philosophy of Sadrā's time, one needs to look at them as parts of an integrated whole.

1.4.2 *Sadrā and other key contexts*

To move beyond the surface of the image and its *mental representation* (which tends to be an abstraction preventing us from perceiving things in their process of becoming), this thesis considers characteristics of moving image (specifically, digital video and pixels) in relation to traditional Islamic art and philosophical concepts (e.g., Substantial Motion/Becoming). Of particular interest is the connection between Sadrā's consideration of *being* in Substantial Motion and the changing pixel. For that, it was important to consider the *minimal part* from a metaphysical standpoint, which required the investigation of two aspects: Sadrā's ontology and Substantial Motion, as well as the relationship between the physical and conceptual aspects of the medium of digital video.

Because Sadrā's thoughts are the core of this research, I found it vital to have a good understanding of his philosophy (and particularly of Substantial Motion). Sajad Rizvi, an eminent Sadrā scholar, addresses the most established Sadrā scholars in the West (such as Henry Corbin and Seyyed Hosein Nasr) in the introduction to *Mulla Sadrā and Metaphysics; Modulation of Beings* (2009) and criticises them for what he regards as a mystification of Sadrā's philosophy. According to Rizvi (2009), placing emphasis on the mystical elements of Sadrā makes his philosophy and thoughts seem invalid for today, which does not do him justice. It also marginalises him from the discourse of intellectual history (pp. 20-23). By way of contrast, Rizvi emphasises Sadrā's scientific approach as part of the history of rational philosophy.¹⁴ Experience is also a matter for rational analysis, and, in this respect, Sadrā's philosophy is similar to some Western *process* philosophers' thoughts. An emphasis on experience makes Sadrā's ontology relevant to art practices that aim to be affective rather than representational.¹⁵

¹⁴ Similar to Rizvi, Parviz Morewedd and Hossein Ziai try to bring attention back to the logical aspects of Sadrā. (see S. H. Rizvi, 2009, p. 11)

¹⁵ Even though most contemporary non-religious scholars argue that it's a good thing that recent philosophers, such as Deleuze and Whitehead, avoid God in their ontologies, I support returning to transcendentalist thought because it is so rich for creativity, and it is the basis of all modern philosophy, and it's only very recently that (some) Western philosophy has taken an immanent approach (Marks, forthcoming). Furthermore, as Philip Goodchild (2011) argues, Deleuze engages with religious philosophy more than any other contemporary philosopher, precisely because he wants to undo the transcendentalism that remains unquestioned in much contemporary thought. As Marks argues, (forthcoming) there is so much to understand about the universe that in a way it doesn't matter if God is the end point, because one will never get there anyway. Sadrā offers a way to appreciate the richness of becoming, and as I explained in the chapter Motion within motion – digital video and Substantial Motion (cf, pp. 84 ff), Sadrā's universe is infinitely open.

However, I believe that Sadrā needs to be understood from both mystical *and* rational perspectives, and my approach is akin to Sadrā's emphasis on the necessity of merging rational enquiry with intuitive knowledge. Keeping Rizvi's critique in mind, Sadrā's validation of both mystic and rational inquiries led me to want to understand both – expanded by an understanding gained through creative practice. Rizvi provides a valuable rational perspective to my study of Sadrā's philosophy by focusing on Sadrā's method, *tashkik* (intensification or modulation of being), and addressing the question of unity and multiplicity in the Sadrian context. *Tashkik* is one of the core concepts of my research and an important part of Substantial Motion. With its focus on *Al-Asfar*, Sadrā's most important book, Rizvi's study became an important source for my investigations, partly because his reading of Sadrā may well be less influenced by Western contexts. Another relevant Sadrian scholar in this context is Christian Jambet who, in his book *The Act of Being: The philosophy of revelation in Mullā Sadrā* (2006), emphasises Sadrā's neo-Platonic aspects, as well as the Illuminationism of Suhrawardi and the Sufism of Ibne Arabi. While Jambet is mostly concerned with Sadrā's mystical aspects, his emphasis on *the act of being* (i.e., Substantial Motion) makes his book an important source for my investigations.¹⁶

However, my research could not build on any existing synthesis of Sadrā's thought with moving image or art practices. There are certain commonalities between Sadrā and Western process philosophers whose thoughts have been widely applied by film theorist and artists (such as Bergson, Whitehead and Deleuze).¹⁷ Particularly, Deleuze's philosophical discussion of film helped me relate Sadrā's philosophy to digital

¹⁶ In some respects, though, it seems to me that Jambet's interpretations are influenced by Gottfried Wilhelm Leibniz, and I suspect that they may not be entirely faithful to Sadrā's originally intended messages. While Rizvi and Jambet form the core of my investigations of Sadrā's work, other writers, such as Ibrahim Kalin, Moris Zailan, Reza Akbarian, Corbin and Nasr, also assisted my research on Sadrā.

¹⁷ In recent years, various scholars who have written about Kant, Spinoza and Heidegger have also shown some interest in Sadrā's worldview. It is important to note that I do not aim to make systematic comparisons between Sadrā's view and Western scholars' views. If they are brought into relation, it is for the purpose of contextualising or propelling the practice and relevant concepts. While I am aware of Western perspectives on Sadrā, I engage them in a crossing-over between Islamic and Western worldviews to make Sadrā's concepts more accessible for Western readers.

media. Both Deleuze's and Bergson's views on time and motion and their critique of abstraction have commonalities with Sadrā's ideas of, for instance, abstraction.¹⁸

Deleuze's *Cinema* books, though, are concerned with analogue film, which has different qualities and properties from digital moving image. The differences between them actually mark distinctions between possible philosophical explorations of each medium. This was an important aspect of my exploration and shaped the development of my own approach in relating Sadrā's philosophies to an investigation of the digital medium and my own practice. Therefore, alongside Sadrā and Deleuze, writings by contemporary film theorists, such as D.N. Rodowick, Laura Marks, and Sean Cubitt have assisted my exploration and examination of the territory of digital media. Most importantly, Marks' *Enfoldment and Infinity* (2010) is a central text for my understanding of digital media and art in the Islamic context.

Just as art and philosophy had important connections for Sadrā's time, so these connections have informed my work as a video maker and creative researcher. While my tertiary education first exposed me to Western philosophy in a formal way, I brought from Iran a familiarity with classical Persian Islamic art and architecture, for instance, miniatures and patterns of mosques. The layers of meaning gathered in Persian miniatures, as well as patterns composed in Islamic architectures, inspired me for the ways in which they activate viewers' imaginations. There is a significant amount of research on Persian miniatures by, for example, scholars like Oleg Grabar, who takes a sensory approach to the Persian miniature and its artificial qualities (See *Mostly Miniatures* (2000)). Others, like Seyyed Hossein Nasr, approach the study of miniatures from a mystic position and relate their visual aesthetic to Sufi traditions and thoughts (1987, pp. 177-184).¹⁹ Michael Barry links the study of miniatures to historical contexts, literatures, and systems of

¹⁸ Also, the concept of monadism of Leibniz is similar to Sadrā's view on the relationship of unit and units: a cosmology that recognises the 'one' that manifests through multiplicity as 'many'. The concept of unit, units and unity is central to my research in that it explores the relationship between minimal parts of the digital frame. Furthermore, Sadrā, similar to Whitehead, sees the universe as a single whole of interconnected units, which is moving towards perfection. For Sadrā, the constant movement of each entity forms the whole, and thereby the universe.

¹⁹ Toufic (1999) takes a similar approach to Nasr in his brief discussion of miniatures in relation to Islamic thought systems, but he reads miniature aesthetics in terms of Islamic atomism and the underlying structure of the isolated universe of atoms and entities.

thought. But he also discussed miniatures alongside Islamic patterns of mosques, and, importantly for my research, he offers an understanding of figurative art in Islamic culture.²⁰

1.4.3 Definition of terms and conceptual apparatus

Given my largely new and mostly unexplored terrain, I had to carefully compare and often adapt or combine existing philosophical terms to accommodate and propel my creative thinking and making. As a rule, I explain terms in this thesis in the context of substantive discussions. In the chapter *Becoming: Substantial Motion* (see pp. 50 ff.), which focuses on philosophy, I stay close to mores of philosophy by providing relevant context and by exact use of terms. In other chapters, I use terms and concepts more creatively as I apply them to the context of digital video and my practice. However, certain terms that are relevant more generally in this thesis, and important for understanding the discussions regarding Sadrā's *Substantial Motion*, are elaborated here.

Sadrā uses *Being* synonymously with *existence*, *Divine* and *God*. Equally, for Sadrā, the *real* is God, and the reality of everything else is measured according to the reality of God. From the being of God, which is the most real, derive the pairing of *visible* and *invisible*, as well as the *simple*.²¹ Unlike our common understanding of the real as material, for Sadrā, the most real is the least perceptually apparent. Therefore, the reality of existing beings is not measured according to their materiality and visibility, but according to their relation to the reality of God. The more simple an entity becomes, the closer it is to the reality of God. This becoming-more-simple depends on change and motion.

When I adapt the term *real* to my reading of digital video and my practice, the term is used only in relation to the sensible, material realm. However, unlike in common use and following Sadrā, the *real* in my

²⁰ Further, Sheila Blair and Jonathan Bloom (2003), and Yasser Tabbaa (Tabbaa, 1985, 2002) were also relevant, as they provided a more recent perspective on traditional Persian Islamic arts. Grabar (for instance 1987) and Keith Critchlow (1989) also helped with a general understanding of medieval Islamic art.

²¹ The concepts of *zahir* (apparent) and *batin* (hidden) refer to the two sides that every existing thing has: the *visible* and the *invisible*. These concepts are helpful in reading digital video both in terms of its materiality as well as other aspects beyond the surface of the image.

investigation is what is least apparent to sense perception in this sensible realm. In this respect, the *real* of a material thing is simple, similar to the use of unmixed colours in Persian miniature or the use of simple forms in architectural patterns. This interpretation of *real* also defines my approach to *visible* and *invisible*. The *invisible* is relevant for my investigation for its potential to be actualised into a *visible*, that is, to become perceptible. The *real* in my practice and investigation of digital video, then, is not necessarily related to our common perception of *real* and *the real world*.

Furthermore, in Sadrā's worldview, everything but the being of God is in a process of change. God only is stable and unchanged, but He is also "pure act" (Jambet, 2006, p. 26) in that He constantly gives existence and emanates all other beings.²² This *act of being* is change and becoming, driven by God's being. However, the *act of being* is not same as God, even though it is His act – this distinction establishes the difference between God and all other beings: the most real, that is God, is beyond the *act of being* (p. 26). From this view of change, Sadrā gives the term, *Jawhar*, or *substance*, a new meaning that is concerned with process and change.²³ *Substance* constitutes matter; but, unlike our usual understanding of substance, *substance* is not pure material. It also involves immaterial and invisible aspects, which link it to the Divine. *Substance* then must be the most simple and invisible aspect of an entity, through which the latter receives God's act of being. Rizvi uses *intensification* or *tashkik* (gradation or becoming more and less), rather than the term *act of being*, which he takes to individuate an entity (S. H. Rizvi, 2009, p. 72).

From the *act of being* and *substance* comes *al-harakat al-jawhariyya*, known as *Substantial Motion*. It is a movement from which the real emerges (Jambet, 2006, p. 45) and in which an entity and becoming are correlated. In *Substantial Motion*, different yet interwoven movements connect visible matter and the invisible Divine. Sadrā's theory of *Substantial Motion* posits movement and transformation within substance and implies that every entity, as it moves towards perfection, experiences the universe differently. *Substantial Motion* is not limited to material and temporal aspects of being, but is instead linked to the invisible realm of the Divine. The *act of being* or *intensification* moves a being toward Divine perfection (p. 191).

²² Jambet defines the act of being as "affirmation, presence; it always translates the effusion emanating from the being that is necessary through itself that is, God" (2006, p. 193).

²³ The terms *substance* and *Jawhar* are discussed extensively in chapter Becoming: Substantial Motion (cf, pp. 53 ff).

In my research, I assumed that everything is in transformation, even what appears stable and unchanged. Qualities of Sadrian *substance*, such as simplicity and invisibility, inspired my thinking on substance in digital video and initiated an exploration of pixels and their qualities in this respect. Thus, I brought together the terms *substance* (*jawhar*) and *pixel* of digital video – in pixels, both visible and invisible qualities inform change. From this definition of substance, I define *minimal part* as the smallest part of a system, which is simple and invisible in comparison to the whole it belongs to. Hence, a *pixel* in relation to the frame; an individual in relation to the society; and a drop in relation to the ocean are all minimal parts. They have their own individual qualities and properties that contribute to the whole, and are substances that form a system.

For Sadrā, anything with which the mind can identify (including an image) is an *abstraction*, and, consequently, lacks reality. He rejects abstraction and uses interpretation (*ta'awil*) as a way of moving beyond the identification of the mind. In my research, I followed Sadrā's worldview, to explore it for a new understanding of the image in digital video, to test and explore possibilities for ways in which the video, through its minimal parts, expands our reality by connecting us to a process of change.

1.5 To become (Overview of chapters)

The first chapter, Ways of Becoming, adapts Sadrā's theory of Substantial Motion as a method for a practice-led Ph.D thesis. It engages notions of physical/geographical and internal motion for my investigation of digital video and minimal parts. The method becomes significant for wedding my practice with theoretical investigations: one continually influences the other. The result is an intensification of ideas and an opening of new avenues to the research. Two forms of movements become central: first, the physical movement from New Zealand to Iran for the collection of contextual and visual data, and, second, an internal movement that involves doubt and questioning of 'the image' and an investigation of its composite parts. The method developed from Sadrā's theory helped me to get closer to the matter of concern, rather than staying outside of an event (the country, the frame).

Because this is the first study of Sadrā in relation to digital media, its materiality and video practice, it is important to closely examine Sadrā's philosophy. The second chapter, Becoming-Substantial Motion, places Sadrā's philosophy in its historical context as it explores Sadrā's main concepts, such as *existence*, *real*, *substance*, *intensification* and *experience* insofar as they pertain to the discussion of digital video. Three concepts from this chapter and the study of Sadrā's ontology become significant for the later chapter on digital video and its materiality, Motion Within Motion. Firstly, the *apparent* as construction of the mind is the most abstract and least real. Secondly, *experience* is inherent to each existing entity: every existing entity is significant because it is a manifestation of the Divine being. Lastly, the concept of *intensification* implies an internal movement toward a greater potency which connects all beings to each other, as well as to the Divine.

These concepts directly or indirectly influenced my thinking and research practice. This chapter, while addressing relevant thoughts and concepts for further discussions in the chapter on digital video, aims to stand on its own and become a potential reference for other scholars and artists interested in philosophy of Sadrā. The chapter eventually brings Sadrā together with Western process philosophers.

Chapter three, Motion Within Motion: Digital video and Substantial Motion, brings the above concepts together with digital video and Deleuzian thought. Despite the apparent contrast between Deleuze's guiding principle of immanence and Sadrā's theist one, these thinkers share relevant concerns. In Deleuze, moving image is considered as a metaphor for the universe – open like Sadrā's universe and concerned with change and becoming. By considering Sadrā's universe as open, the chapter approaches his ontology to explore connections between the minimal parts of digital video and other minimal parts. It investigates relations between pixel and frame, as well as with the outside world, and individual and universe. An open pixel in the process of change and becoming is connected to the outside world. In terms of Substantial Motion, a discussion of formless qualities of pixels that form an image becomes possible. Qualifying a pixel's being eventually leads to considering the possible experiences a pixel goes through in its interconnected universe.

While the previous chapter participates in philosophical discourse, media theory and the materiality of digital video, Chapter four, In Search of the Magic Lantern, contributes mostly to the field of moving image

practice. This last chapter joins the concept of Substantial Motion with digital video and my practice. Aspects such as invisibility and change, originating from Sadrā's ontology, are explored through a series of videos. This practice, in turn, further enriches and refines the theoretical concerns arising in the crossover between ancient Persian-Islamic and contemporary Western concepts. Here, practice and philosophy shed light on each other. The chapter discusses my attempts at exploring spaces beyond the perceived image. A selection of my digital works, both exploratory and final, is discussed in chronological order. I explain the processes by which I sought to keep the pixel's links and connections to the outside of the frame. Inside the frame, the change of one unit influences the whole. From a critical angle, this approach to practice sought new ways of seeing, some of which were initially driven by non-human points of view and experiences, such as those I imagined a pixel to have. To perceive from other entities' points of view and experiences enhances and expands our own perception, which in turn enlarges our understanding of the flows of becoming of all entities, including us.



Figure 7. Friday Mosque (Masjed-e-Jameh Jam) [Photo: Author, 2011]

2 Ways of Becoming (Critical Framework, Method, and Methodology)

2.1 Crossing a bab

Classical Islamic architecture in Iran emphasises mosques as spaces of divinity, safety, and peace. Through the design of space and patterns, artists and architects created a site of escape from the complexity of daily life. For example, the 'main' dome inside the Sheykh Lutfollah Mosque in Isfahan, Iran, is the central part of the mosque since it unites different spatial elements as well as motifs and patterns. The space under the main dome is also a space of gathering that brings individuals together to worship and pray in a collective manner. The dome and the space underneath are considered the main part of the mosque because of their ability to convey magnetic and unifying, while at the same time isolating and sedative, power. That said, one does not directly enter the centre, rather s/he needs to physically and spiritually become ready for the central experience. To be shifted from everyday life outside the mosque, one passes through different threshold spaces. First comes the *bab* (the door; the opening or beginning), an entrance to the other site. Then, beyond the *bab*, one finds him/herself in the *hashty*, which is a vestibule leading to possible spaces beyond the *bab* (Ardalan & Bakhtiar, 1973).²⁴ One of these spaces is the *sahn*, where a fountain in the middle of the courtyard invites worshippers to awaken their bodily senses by washing their faces and arms before entering inside. The *iwan*, a large vaulted area that is open toward the courtyard, directs one to the main site under the dome. Depending on the architecture, one passes through smaller domes before arriving to the main hall.²⁵ In the journey from the outside to the space under the dome, patterns, colours, lights, and the opening and closing of spaces, prepare the minds of individuals to experience the main dome as a reflection of a higher world within him/herself (an adaptation of the idea that God and His realm is situated in the sky).

²⁴ See also Engels-Schwarzpaul and Emadi (2011).

²⁵ *Iwan* and threshold spaces are not limited to the architecture of mosques, but have also been used - differently - in other areas (Ardalan & Bakhtiar, 1973). However, *iwan* was established in the Sasanian era. Similar to the Islamic architecture of Mosques, in Zoroastrian fire temples, after entering the site one first comes to the water and then stairs take a person up to the main hall with a dome that also invites an individual to look up, even though no patterns were used in the Zoroastrian temples.

Usually, the most complex patterns are used for the central dome and the space underneath it (see Yarshater, Maisonneuve & Larose, 1962, p. 68). The use of calming colours within the vast and open area, as well as the careful use of patterns and calligraphy, leads one to instinctively look above, towards the centre of the centre, and to find the simplicity of the divine reflection within. The space does not appear to change and the person does not physically move through the surrounding space. Instead, a different form of movement or shift is experienced as an internal form of change – a substantial motion. It is not a physical movement from one location to another. Instead, it is a contemplation of a single space occurring within and outside of an individual. It is in this space, and this internal experience of unchanging change, that the singular units are unified into a collective whole.

Expanding the above metaphor to the practices of digital video and media art, my method of scholarly and practical investigation involves two forms of movement. Firstly, physical movement from one point/state to another and secondly, substantial motion or intensification (becoming more or less in quality) that is an internal, invisible process (cf, pp. 62 f). The practice aspects of my research recognise creative potential in a continuous movement between inside and out; from inside a home land to the outside and back again; from the outside to the inside of a mosque, a frame, and a pixel. It is through this movement that other aspects, such as being, minimal parts, point-of-view, and the interconnected units of a pixel are unfolded. In this approach there is no point of arrival, but a boundless horizon with infinite limits. This requires openness toward the unknown. It also requires stillness in the middle of ongoing movement. This stillness does not ask for immobility, instead, it is a platform for an absolute transformation in time. Stillness allows for internal movement to appear (similar to swimming fish within a lake becoming more visible when the water is still). Arriving at a point of stillness brings about a new movement. These types of movement also inform the theoretical and philosophical concerns of this research.

2.2 Substantial motion as a method

This research project engages with philosophical texts and practices of moving image, through a range of technological and conceptual investigations. Alongside creative explorations, archival research of classical Islamic arts and texts on Mulla Sadrā and Islamic philosophies are studied. This is accompanied by readings of Deleuze on time, movement and image, Leibniz on monads, Whitehead on prehension, and

appropriate texts in film and media theory. Visual documentation evolved alongside the written aspects of the research and technological explorations brought further challenges to my conceptual development. Questions arose from my theoretical and philosophical readings that also influenced the process of my moving image practice. This in turn shaped my thinking about units, such as pixels. In this sense, the video does not illustrate Mulla Sadrā's ideas of change and motion, but is a work of becoming in itself.

As a practice-led project, the research moves between practice and theory. Each aspect has its own movement and growth, but they continuously feed each other. In this process, there is a zone where the focus shifts back and forth between practice and theory. There are times when their movement seems independent, where they take their own course until they come back again. The experience that I found most energising and challenging was the constant folding over of theory and practice. Substantial motion that involves physical (changing matter, or shifting location) and internal motion (intensification) is applied as a method where there is no separation between making and thinking. This method always requires physical movement as well as a form of movement that does not demand a linear shift from point A to point B. This process is a combination of movements in the physical space and the immateriality of substantial movement, or intensification. One involves more of a material change, while the other aims for more of an experiential, felt change.

I also strived to have two elements inform the creative process: one that sought original ways of bringing different materials and elements together, leading to a second stage of influencing the subject matter beyond its material presence. However again, to invoke the terms of substantial motion, the two forms of movement are not inseparable and one does not stop for the sake of the other. Rather, there is a constant interchange between physical and substantial movements, even though one might be more visible and felt than the other at times. Within creative practice, the emphasis can sometimes be on the concept more than the material context. At other times, the materiality can principally inform underlying concepts. This continuous interchange informed my decision-making in terms of both theory and practice.

It is significant to note the role of stillness when identifying the process of intensification through the research (just as substantial motion is a motion within stillness). Such moments of stillness involve observation and reflection, on the process, myself or other entities and related events. As a researcher, I

encountered these different movements through self-reflection and deep observation. My own position and personal experiences were reflected back into the research. It is essential for my methodology to explore both personal and social, as well as digital contexts. I need to not only observe closely, but also to go beyond specific situations and take into account the larger context. The constant movement between social context (outside the frame) and the internal context of the frame of the digital video (the society of pixels) articulates my position as a creative researcher.

2.2.1 In and out – expanding and contracting

I ask the reader to think of change (physical movement, substantial movement, and stillness) in a non-linear way that does not necessarily involve beginning from one point and moving to another. Instead, these forms of movement are inseparable, like dissolved sugar in water.²⁶ However, at times I need to divide them for the sake of communicating the content more clearly.²⁷ By thinking of these elements as embedded in each other, no matter which one is more apparent, an individual can reach the other from his/her point-of-view. This view is different to Sadrā's understanding of motion/becoming which always begins through the Divine will. Therefore, it is important for the changing material body to reach divine stability. And so we, as material subjects, always begin our movement towards perfection from the material world. However, when it comes to understanding the materiality of digital video through creative thinking and making, we need to place Substantial Motion within 'our' sensible realm and our experience of movement and change. It is then possible to start from each material or conceptual point, which can lead to other points.

To recognise the ongoing transformation of others and myself, the aforementioned method asks for careful observation of the long duration of individuals and their social surroundings, as well as video content, frames and their relationships. Perceiving allows me to recognise the connecting points amongst units, as well as their constant exchange and becoming. It also helps to identify and collect related data and

²⁶ This is similar to the example by Deleuze, using Bergson, of a glass of water, in which added sugar dissolves over time (Deleuze, 1986, p. 8).

²⁷ The linearity of an exegesis makes it hard to show how these movements shape the thesis, for instance how Sadrā's concepts have informed my methodology.

information. By observing motions and shifts in relation to units/minimal parts, I, as a practitioner, take part in change and motion. The shift is not only a movement from point *a* to point *b*, but also a movement *in* and *out*, opening and closing; like that of breathing lungs – in and out, expanding and contracting. Yet, this inside-out movement allows more and more expansion: the more movement inside-out, the more expansion. The contractions are never the same, although they are always in relation to the previous expanded movement.

Suppose we imagine all entities in the universe are turning inside out, and then inside again while they are moving and wavering around in space. They touch and move each other, but they also inhale each other as they open out. They are changed while changing each other, internally and externally. To be placed in constant waves of change is frightening, but also creative. Through the course of this research, I inhabited this place so that its potentials could shift my perception for discovery of new points of view that may be foreign to human eyes. Finding new ways of seeing is possible through a position of groundlessness, or better yet, when one becomes aware of his/her groundlessness.²⁸ I am placed on a frame that is constantly moving and shifting, on the edge of going inside and out, of the country, the frame of a video, the pixel. This is a shifting frame and I am shifting with it. Could it therefore be said that in this experience I am also a frame that is constantly moving and changing, expanding and contracting?

2.2.2 *Becoming*

Deleuze discusses Foucault's notion of the specific intellectual as a new face with a changed position who tends to move from one specific place or point to another. This intellectual can assume the face of an "atomic physicist or geneticist or information technologist or pharmacologist, and so on", in this way "producing effects not of universality but of transversality, and functioning as an exchanger or privileged junction" (Deleuze, 1988, p.91). Importantly, specific intellectuals have established a new connection between theory and practice, where they begin their work at specific points, namely those "where their own

²⁸ It is in this position that I realised the relationship between my physical movement and an invisible movement within me. Even at times that I seemed motionless, I was moving; what I was placed on, or I was connected to, was shifting and I was moved with it, even though unaware of it. Each time I recognise a unit and its motion, I become part of it and it becomes part of me.

conditions of life or work situate them” (M. Foucault & Rabinow, 1984, p. 68). This, interestingly, applies already to Sadrā, who combined a rational as well as intuitive enquiry with a mystical approach (cf, pp. 23 f).

The intellectual (researcher) relates different theoretical fields with specific practices and politics.²⁹ In a universe of “flowing matter” (Deleuze, 1986, p.57), information is collected and unfolded for the purposes of research. The researcher, too, is a matter amongst others, but with a purposeful attitude to notice. In the process of categorising and analysing information, a researcher grows her sector of perception; the more vast perception is, the more data becomes available. Any matter can be a potential point for unfolding the universe (Deleuze, 1989, pp. 45-69): a note, an article, a memory, an informal conversation, a leaf of a tree, an old text book, a movie, all can be data, as long as they help the researcher to form ideas or to expand her perception on the research. A researcher purposefully looks for potential in the data collected to generate new concepts and theories. In the case of this thesis, data can be understood as theoretical, archival, and audio-visual.

Deleuze considers practice as “another type of discourse” that can create new concepts for philosophy (Foucault & Deleuze, 1977, p. 206). Practice helps researchers to overcome the “internal difficulties” of theory. In my research, practice does not just create a set of connections between “one theoretical point and another” (p. 206) but it stands in a mutually productive relationship with theory. Theory can provide a “relay from one practice to another, connecting one practical field to a different one in order to overcome a practical impasse” (Baugh in Parr, 2005, p. 277). Just as “becoming is nonrepresentational” (Stivale, 2005, p. 102), theory and practice contribute practical and theoretical responses to sets of connections between theory and practice.

For Deleuze and Guattari, becoming “is always in the middle”, never at any start or end point, but in-between (1988, p. 249). The “interval” embraces “relations of movement, and rest ... molecules and particles of all kinds” (p. 266). As I noted earlier, my research method considers data as points from which to unfold information. It involves always being aware of the gaps in-between, and their potential to support concepts

²⁹ See also Bruce Baugh on “Theory” in Parr (2005, pp. 276-278).

and practices. The research does not consider beginning or end points, but rather situates its principal concerns in the middle of becoming where “theoretical points” are “concepts in the case of philosophy, affects and percepts in the case of art” (Baugh in Parr, 2005, p. 277). From this perspective, practice and concepts emerge from analysing and studying collected data and materials, and the researcher is the one who decides on the relationship between data and emerging concepts. In the case of my research, this approach is productive for generating visual works based on the complex phenomena of change and motion.

2.3 Process of Intensification

The thesis work emerged from the visual sampling of historical sites and arts, visual and spatial explorations, interviews, and viewers’ responses to exhibits and concepts (the viewers were academics, fellow researchers, and artists). This research process involved three stages: data collection, categorising and analysing, and creative production. As discussed in the previous section, data for this research was collected from the fields of theory (e.g., texts, literature, interview) as well as practice (e.g, the still and moving images I produced, archival material and images of art works, Youtube and other video works). In effect, data was anything that informed my thinking and helped the process of my research. While data collection took place in my movement from site to site, categorising and production mainly occurred within New Zealand. The act of collection can be recognised as a physical movement, and the acts of categorising and production can be understood as intensification and movement deep within the frame. Each overlapping stage engaged differently with notions of becoming and change. One focused more evidently on the human subject and society, and the other was preoccupied with the frame and pixels. I applied these stages every time I travelled. It was a recurring movement, from vast amounts of information to specific sets of data or concepts, and so the cycle continues refining the collection and analysis of data. However, it is important to remember that the new was not completely new as there was always a trace of the previous.

2.3.1 *Back and forth (data collection)*

Moving from one country to another, but mostly to my Iranian place of birth, provided the possibility of arriving at different points that then led to new spaces and possibilities, where different data and information became available for collection. I moved, I observed, and then I collected samples and materials. This movement in and out of the country was repeated three times. Upon each return, new points unfolded and new centres were formed that led to new movements, concepts, and images. The repetition of this process enabled the emergence of conceptual and contextual layers. It also focused the contexts of the project towards the notions of the minimal part and substantial motion (cf, pp. 50 ff). During my first return to Iran in 2011, the investigation engaged with a vast spectrum of information that included the collection of images, theories and concepts. As a consequence of analysing that material, my next visit involved a more visually and theoretically refined approach to research and data collection.

2.3.2 *On the surface (analysing and categorising)*

Investigating the contents of the frame generally happened outside of Iran. This involved an intense study of collected materials and related philosophies. During this stage, I was outside of the country, and the frame, while looking back in. It was the movement of time, and then my distance from the place of filming, which allowed me to develop different perspectives and a different understanding of the videos. Between each return, hours of video were reviewed. There was always a time gap and physical distance between collecting materials and revising them. After the analysis of very long video material, I made connections between people, spaces, frames and pixels. Links were made between elements inside and outside the frame, and certain parts of videos were selected. However, at this stage, I was still dwelling on the surface³⁰ of the representative and figurative images. This stage was important for the later engagement with the moving image material, and drawing out the content of the frame in the search for the minimal part and its point-of-view.

³⁰ Surface of the image, is related to Deleuze and his concept of cliché and Sadrā's concept of abstraction.

2.3.3 *Beyond the frame (Production)*

Production mostly took place in New Zealand. It was a process of intensification, which intended to move beyond the surface of the image/frame. It involved taking large images and then going *into* them: observing their internal transformation, and transforming them while I was transforming myself. Moving inside a frame in search of the minimal part/pixel was always in relation to the outside. This linked the social unit and the unit of the digital video. Like Deleuze, it also considered digital video as a metaphor for the universe. While working with the frame, notions such as time, motion, appearing and disappearing were studied in relation to the content of the frame as well as outside of the frame (where the video was originally taken). It was a search for a new way of seeing within the frame, through a pixel's perception of the universe.

2.3.4 *Technology of perception*

As a work of becoming, one of the central ideas of this project was to consider human individuals (or units of society) in relation to pixels (or units in a moving image) with respect to the ways in which their movement can shape and reshape patterns and figures, and therein facilitate new ways of seeing. A pixel is just one part of a whole that is always in a process of becoming. It has its own life and qualities that, for the purpose of this research, needed to be studied closely to explore ways of operating on them. Hence, editing and postproduction were important stages in testing and investigating these units in relation to aspects of time, motion, and change within the frame. This took place alongside theoretical considerations and deployed processes such as intense close up, repetition, and jump cuts. Furthermore, to try to isolate the pixel and identify its qualities and capacities I used the 'ProVideoPlayer' programme, microscope, and developed a programme "Pixel Picker" (cf, pp. 136 ff). However, postproduction was only one possible approach to investigate the limitations and/or potential of the digital camera as a medium. Also important

for developing an understanding of the relationship between a digital image and the ‘real world’ was a more general familiarity with the technical aspects of moving image, the screen, software and hardware.³¹

2.4 Connecting points – collected data in detail

2.4.1 Interviews

To get a better understanding of the influence of Mulla Sadrā’s philosophy on ordinary life as well as scholarly aspects of culture in Iran, I developed two indicative questionnaires. These questionnaires complemented my scholarly research by providing me with different angles of approach to the scholarly texts, as well as different kinds of embodied experiences of the relevant topics. Each questionnaire broached different aspects of the research. One interview focused on the scholarly sides of Mulla Sadrā and his philosophy in relation to the ordinary lives of people in contemporary Iranian society. The other questionnaire aimed to understand historical aspects of Persian-Islamic arts and architecture (particularly the mosques), identifying mediating aspects between art, philosophy and ordinary life. Shifts, influences and transformations amongst the three were important to my project, as a way of joining philosophy and ordinary life together through the medium of art. These interviews were carried out in January and February 2011.

Initially, I contacted a few experts with a grounded knowledge of Islamic traditional thought, particularly the philosophy of Sadrā. However, accessing the scholars was an extremely challenging and time-consuming process. Although my request for an interview was never directly rejected, I was not able to

³¹ This familiarity could have been further developed, but for this thesis it was crucial to maintain focus on the conceptual and philosophical aspects of the pixel. This familiarity could have been further developed, but for this thesis it was crucial to maintain focus on the conceptual and philosophical aspects of the pixel; an extended technological investigation was beyond its scope. It is important to identify some revealed areas for further investigations. For example, a creative research on pixel size, dynamic range and overflowing of photons can benefit a further creative exploration of Substantial Motion at pixel level. Technical facts such as blooming, and the way that some pixels can collect more photons in the shadow areas before the bright ones start to overflow, offer potential for a more technical investigation of Substantial Motion in the digital image.

meet with the individuals I initially targeted. However, I finally met Dr. Gholam Reza A'awani, from Tehran University and the Mulla Sadrā Institute of Islamic Philosophy in Tehran. I also interviewed an individual with sound knowledge on Mulla Sadrā but mostly from the perspectives of ordinary people. Moreover, the perspectives of an archaeologist, who works closely at historical sites and with visitors on a daily basis (mainly in Isfahan and Yazd), helped in connecting different eras (e.g. Mulla Sadrā and contemporary Iran), arts and philosophies.

2.4.2 *Collected images*

The filming took place in Iran and the collected images mostly show people within the environments I filmed. During each visit to Iran, I generated additional visual documentation at relevant, historically and culturally significant sites. As an observer, I was not controlling, directing or influencing the events, apart from choosing the locations, positioning the camera and framing the image. After that, I had no control over what appeared in front of the camera. While my presence, and that of the camera, undoubtedly would have influenced the events to some extent in certain cases, I nevertheless allowed things to just happen, while my camera and I were observing. This required spending a significant amount of time being within the space, observing people and their environments.



Figure 8. Filming process [Photo: Tina Engels-Schwarzpaul, 2012, Isfahan-Iran]

During my periods of observation, I was sometime becoming one with the space by attuning to the parts within it. It was important for my presence to not intrude on other people's spaces, but to fuse with them and their environment. Thus, to prevent people being distracted by the camera, I used a small portable camera without a tripod like any other tourist. However, it was not my intention to hide the camera. Ethically, it was important for people to be able to identify the camera and become aware of the possibility of being part of a video. Not having a

tripod meant that I had to adapt to spatial conditions floor, or on a platform (fig. 8).
for my filming, such as placing the camera on the

The video camera was at times hand-held and at times it was placed to stand freely on its own (i.e. sometimes the camera was moving and at times it was very still). I mainly used the stationary approach when I wanted the camera to perceive/record without me interfering with its observation. For example, sitting on the floor of Sheikh Lutfollah Mosque in Isfahan, the camera was placed next to me on the floor and recorded the same space that I was observing. After extended periods of time perceiving, connections within the space, between its parts and the people inside, began to be revealed. It was in this moment that I would hold the camera to capture a sense of the space and the physical/spiritual experience of it. My body, the spatial qualities of the space (such as patterns, structures, openings and closings), and people's connections and interactions with the site (such as looking above to the centre of a dome) informed the camera's movement. Sometimes, the camera followed the lines of patterns (e.g. the Friday mosque in Yazd) as one's eyes would. At other times, the camera was turning as my body was turning, getting lost inside the patterns of the dome, losing its balance and finding the ground again. Although my body's movements informed the camera's movements, the camera created its own experience of the space. What was captured was not purely based on my physical movement. Instead, the camera brought its own perspective in a way that I only perceived when I revised the videos. The camera was between my body and the unmoved space. Through the camera's connection to my body, the two spaces of my body and the site became linked, which created a new experience inside the video images. The camera was transmitting the two movements into one, which was its own.

2.4.3 Other points (feedback and videos by others)

During the course of this research I also travelled to Germany and Canada to expand my investigation of concepts and theories, as well as my network of scholars and artists within similar research fields. This entailed exhibiting works and testing out ideas. With the notion of becoming and change in mind, I made work and presented ideas as I travelled. I hoped that my own movement from place to place would form and shift the making and thinking. It is important to reiterate that the main visual material was from the

collected videos taken in Iran. Testing ideas while travelling was important for developing connections between theory and practice.

I spent three months at Simon Fraser University in Vancouver to extend my knowledge of the intersection between Islamic concepts, contemporary Western thought and new media arts. I attended Professor Marks' lectures and engaged in close readings of central texts in regular meetings. I also visited and discussed ideas with artists such as Salloum. These discussions, and the intense philosophical and theoretical study that I underwent with Professor Marks, shed new light on my approach to the understanding and production of moving image.³² Near the end of this stay, I presented examples of my practice as well as relevant philosophical contexts to colleagues in Canada. Feedback from this presentation helped me to focus my ideas.³³

On my way to Canada from Iran, I had an opportunity to exhibit at HFG University in Germany (2012).³⁴ The exhibition contained selected materials that were collected and developed before leaving Iran. The feedback and comments were helpful for developing my practice further as well as identifying the elements that worked and did not work. While in Germany, I unexpectedly came across an Iranian Kurdish refugee in Darmstadt. He had recently crossed the borders from Turkey to Iran in a 58-hour journey, and his story and experience become influential for aspects of this research. He also gave me a short video that he took with his mobile phone at a moment when he felt he was facing death while crossing the borders. This video became a connection point between my use of philosophy and the lives of people that I encountered on the research journey. Although the digital image is important, this connection point is also crucial for understanding ways in which philosophy and art contribute experiences of the human condition and knowledge of other beings.

³² Additionally, Prof. Marks and Mohsen Yazdani (a graduate student at SFU, and film maker with interest on Islamic philosophies and art) and myself had a summer reading group (2011).

³³ This public talk was held at SFU (2012). Also, I presented at a number of conferences, and the received feedback fed into the research: Interstices 2010, IVSA 2011, Expanded Documentary 2011, ISEA 2013, AUT Postgraduate Conference 2013.

³⁴ The title of the exhibition was Inside/Out (2012). I also presented at a number of other exhibitions: Live, repeat, playback (2010), Speak Easy (2011), Auckland art triennial, presented as part of AUT (2013).

Through this method, the process of observing and revealing a pixel (minimal part) involves a one-to-one engagement between me as a unit outside the frame, and a pixel as a unit within the frame. It is important to remember that this single unit is part of a bigger, shifting and changing whole. Similarly, any inside movement also requires an outside movement. It is then that one can see the unit in relation to the whole. My aim with the exposure of pixels is to engage audiences to develop a sense of the pixel and its experience, its life. Viewers are then in a position to become aware of themselves and their part within a changing whole. The frame and the pixel are not fixed, even though they are bound to their physical limits, just as our body defines our access to the world, yet is always engaged in a process of change.



Figure 9. Friday mosque (Masjed-e-jameh Jam) [Photo: Author, 2011, Yazd-Iran]

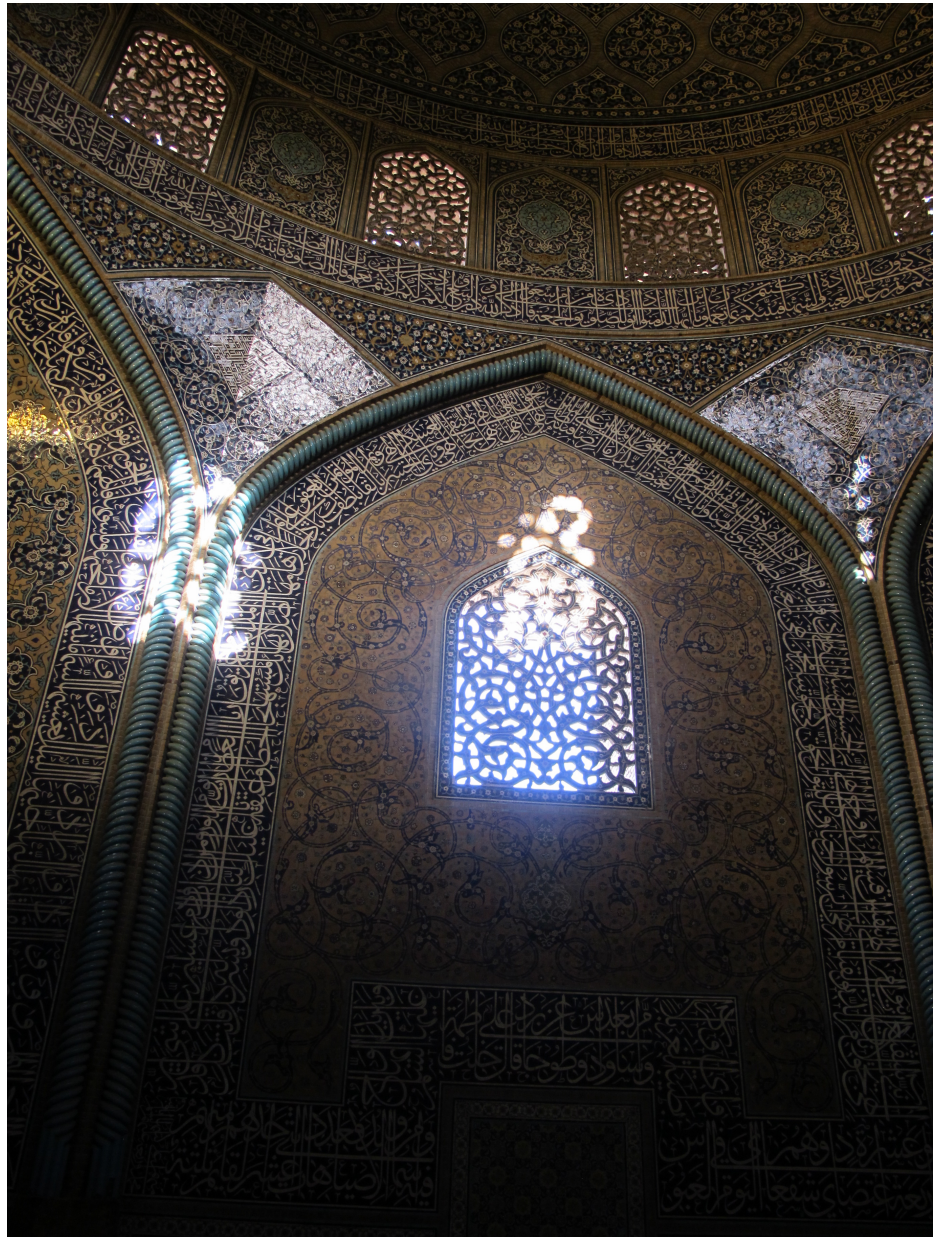


Figure 10. Sheikh Lutfollah Mosque [Photo: Author, 2012, Isfahan-Iran]



Figure 11. Dome of Imam Mosque [Photo: Author, 2012, Isfahan-Iran]

3 Becoming - Substantial Motion

This chapter introduces Substantial Motion, as a central concept for this research project, which informs my understanding of and my approach to digital video in relation to the bigger picture, the universe and existence. The chapter discusses some of the most relevant aspects of Substantial Motion in their historical and philosophical contexts. Some of these aspects directly influenced my reading of digital video and some indirectly informed my thinking and practice. Sadrā's philosophy gives credit to all entities and their experiences of the universe and of the Divine being. Applied to digital video, this enables us to conceive of the pixel as having certain experiences as a part of an interconnected universe. Three concepts from Substantial Motion become profoundly significant, and they are discussed in greater detail in the chapter *Motion within Motion* (cf. pp. 84 ff). Firstly, all beings have a particular reality and therefore a unique or individual experience of the universe. Secondly, the apparent (as a construct of the mind) is the most abstract concept, and Sadrā's theory gives more credit to the invisible than to the apparent. Lastly, the theory of intensification suggests an internal movement toward a greater potency, in which change connects all beings to each other as well as to the Divine. Eventually, the chapter brings Substantial Motion together with Western process philosophers such as Bergson, Leibniz and Whitehead, who have also influenced my research.

Questioning the outward appearance of entities (*zahir*) in order to reach the hidden (*batin*) – in Islamic philosophy the search for Divinity – helps to delve into Sadrā's view of the real and his questioning of the mind's perception of entities. Understanding the reality in things requires going beyond what in the first instance is apparent to the bodily senses (Yazdī, 1992, pp. 38-40). Everything in the material or sensible realm has a *zahir* and a *batin*. *Ta'wil*, meaning "bringing back to the root", is part of a hermeneutical method to understand the inner meaning of the Qur'an (Hixon & Douglas-Klotz, 2003). It seeks to delve into the understanding of meaning beyond the *zahir* (that which is apparent), to the root, the *batin* (that which is hidden). This method for bringing out *batin* is not limited to texts but applies to all that exists. *Ta'wil*, a

basic concept of Islam, was developed especially by Isma'ili theologians as well as Sufi mystics (Walker, 1993).³⁵



Figure 12. Section of Talismanic Scroll (11th - 12th century) [©Metropolitan Museum of Art, New York, Online access, April 2014]

Kufic calligraphy, developed in the seventh century in Kufa, Iraq, can be understood in terms of notions of *zahir* and *batin*. It is an example of manuscript art that requires contemplation and hard work to discern the meaning behind ambiguous letters. Each figure is a segment of a whole that can unfold its interior meaning. In the later development of foliated kufic calligraphy, letters turn into leaves or flowers as they grow from their beginning point.



Figure 13. Foliated Kufic [Photo: Author, 2011, Jame Mosque Ardestan-Iran]

The absence of dots and figurative forms hides their meaning and creates writing that is almost impossible to read. Art historians Irene Bierman (1998) and Yasser Tabbaa (2002) argue, in the case of foliated Kufic text in Fatimid Cairo, that the resulting uncertainty and delay is an opportunity for different understandings and interpretations to arise. On the other hand, letters in the angular Kufic writings, for example in the Friday mosque in Yazd, do not turn into figurative forms. Instead, the repeated and twisted form of the letters creates a pattern that is visually pleasing, encouraging one's eyes to wander over its surface. The play between words and symbols suggests a meaning beyond what the eyes see. As the eyes play and move along the surface, the latent forms begin to manifest and show the names of Allah, Prophet Mohammad, and the first Shia leader, Ali. Kufic writing can be understood to imply that seeing beyond

³⁵ See Corbin for more detail on *zahir* and *batin* (1993).

the *zahir* is not only limited to spiritually advanced people, but that everyone can experience the *batin* to a certain extent (Marks, 2010a). However, this does depend on the entity's level of perfection as a being. Thinking about art and moving image as having *zahir* and *batin* can assist us to move beyond what is apparent

Sadrā also suggests that one needs to go beyond external qualities of matter to find the real. Reality is existence for Sadrā, which is the all-inclusive Divine (for a more extended discussion, see section 0, The inherent being below). His idea of reality is different from other forms of Islamic thought in that he proposed that the real, as the Divine act of being, is the most apparent and present. However, this becomes hidden through the (external) qualities that are abstracted by the mind (Chittick, 2007). For Sadrā, the material world and matter itself are real and significant, but they are less real than the other realms and can distort and manipulate our perception of reality. One needs to doubt the apparent reality of entities.

To understand the real that is beyond the apparent, Sadrā adapted an inner approach of *ta'wil*, and accordingly proposed his hermeneutic method of interpretation, which he named *tashkik* (systematic ambiguity) (see S. H. Rizvi, 2009, p. 39). From the root *shakk*, to doubt, the term *tashkik* is also the root for the word intensification (literally: more or less) (p. 44), which means a change in quality. In the theory of intensification, entities are different as a consequence of their degree of intensification. Things that move further away from God become more and more uncertain in their being, and so less real, because they are less intense. Motion and change that affect an entity's substance also change its level of intensity. Substantial Motion is a process of intensification of being towards Divine perfection. *Tashkik* is a way to unravel and analyse texts, ideas, and beings (p. 2).³⁶ It is a Sadrian method of questioning reality as understood by the mind and reaching the real. *Tashkik* is proposed here as a way to move to the *batin* and is further explained in a later section on intensification.

³⁶ It also provided Sadrā with an approach to resolving the problem of multiplicity without endangering the Divine unity.

3.1 Jawhar (Substance) and minimal parts

For Sadrā's theory of Substantial Motion (*al-harakat al-jauhariya*) and intensification (*tashkik*), it is important to understand the concept of substance (*jawhar*) that, for Sadrā, is constituted of both Divine being (invisible/immaterial) and matter (visible/material). In its historical context, Sadrā's notion of a changing universe challenged the substantialist view that dominated Greek and Islamic philosophy. Substantialist philosophy, which is associated with Aristotle (384–322 BC), is the major tradition in Western philosophy that also influenced Ibn Sina (c.980–1037). Aristotle and Ibn Sina argued that an entity cannot change substantially without losing its singularity and unity as a whole. On the other hand, for Sadrā there is no fixed substance. This alone completely divides Sadrā from the substantialist tradition of Ibn Sina.³⁷ Instead, Sadrā considers process, or 'the act of becoming', as real (S. H. Rizvi, 2009).³⁸ The relevant topics for this research, such as reality, being, motion and time, are based on the definition of substance that forms Sadrā's ontology.

Substances in a philosophical system are known as "fundamental entities of reality" (Robinson, 2013, p. 1). The term *substance* relates to the Greek *ousia*, meaning *being*, and to the Latin *substantia*, meaning "something that stands under or grounds things" (p. 1). According to David Hamlyn, *substance* has been a confusing term in philosophy, because it has been used and interpreted in different ways by different philosophers and schools of thought (1984, p. 60). For example, Aristotle regularly referred to substance as particulars (e.g. this horse), using the Greek term *ousia*. For Aristotle, "'substances' are the things which exist in their own right, both the logically ultimate subjects of predication and the ultimate objects of scientific inquiry" (p. 60).

For Aristotle, qualities can change but the substance never changes. "The substances are the only things that can remain the same, while receiving contrary qualifications" (Hamlyn, 1984, p. 63). These unchanging substances that have forms and matter construct 'the material reality' or the 'sensible' world.

³⁷ A generation before Sadrā, Eastern Islamic philosophy was in agreement about reality as a process. It is important to note that Sadrā did not invent the concept of process; he was building on Suhrawardī, al-Tusi and other thinkers (S. H. Rizvi, 2009, p. 28).

³⁸ Process philosophy has always been a minor tradition both in the Islamic and Western world. In Islamic philosophy, Rizvi (2009) identifies process as arising in between the time of Ibn Sina and Sadrā and mostly by al-Tusi but also Suhrawardī (p. 43).

Substance, as constituting matter, is not subject to change; as *ousia* it cannot be more or less, because “it has no opposite, and intensity requires opposition and contrariness” (S. H. Rizvi, 2009, p. 111). Movement and time are considered external to matter. The experience of change results from our perception, which creates unity and movement from disjointed parts and events. The unchanging substance, in the Aristotelian view, is essential for preserving the singularity and identity of a thing. Substances cannot change; otherwise there will be no stability. If there is movement and change in matter, it has to happen in an unchanging space, to keep it as a stable whole; like an unchanging container that allows for a change to happen inside without losing its unity as a whole.

In a variant of substantialist atomism, atoms are considered substances because they are the basic things from which everything is constructed (Hamlyn, 1984). However, unlike other substances, atoms are minimal parts, that is, indivisible, and the simplest in form and quality. This simplicity is concerned with material quality.³⁹ The Islamic atomism of Kalam also defined an atom as that which occupies a space that is conceptually and physically indivisible (Dhanani, 1994, p. 55). Despite the differences between the atom and substance, the Mutakallimun, a branch of Kalam theologians, had always referred to the atom as *jawhar* (substance) even though the actual term for atom is *juz'* (*ajza* is plural), which also means minimal part (Dhanani, 1994).⁴⁰

Ibn Sina, adapting Aristotle's thinking, rejects the possibility of motion and change in substance (M. Kamal, 2006, p. 71). From his view, being as substance cannot undergo intensification. Man is always a man, unaffected by change despite growing into an old man. His substance stays the same, only the material attributes and qualities change, as though putting on different layers of clothes.⁴¹ By contrast, Sadrā's

³⁹ For Leibniz, the monads (his term for atoms), as “the basic entities”, are also absolutely simple, because “no complex thing of any kind could be basic” (Hamlyn, 1984, p. 63). In the *Monadology* (Leibniz, 1989), “The monad ... is nothing but a simple substance, which enters into composites” (T19. §1). However, Leibniz' atomism is not material atomism.

⁴⁰ Dhanani (1994) explores (p. 55-58) the term *jawhar*, taken and formed into Arabic from the Persian term *gawhar*, which means ‘substance’, is used by Islamic philosophers to refer to substance. Dhanani explains in detail the reason for the use of the term *Jawhar* by the atomism of the Mutakallimun.

⁴¹ Based on the unchanging substance, Ibn Sina argued that the only being necessary in itself is God. Being is an undifferentiated whole that differentiates itself. Other beings exist only through God. This is the concept of the univocity of Being. Moreover, there are things that may not exist yet, but possibly could exist if God commands it. Some contemporary Western thinkers such as Deleuze also referred

definition of substance is influenced by the Platonic view⁴² where “man becomes more or less a man”, depending on how his potentiality is actualised. Therefore, becoming and change can affect substance too (Jambet, 2006). For Sadrā, *substance (jawhar)* is not primordial to being, but is itself “a process of becoming and unfolding of being” (S. H. Rizvi, 2009, p. 131). Sadrā equates being with God, or the act of becoming, and defines *substance* as an “independent existent which is existent by its essence and ipseity; it is necessary for itself without being attached to any other thing” (M. S. Shirazi, 2004, p. 50). In its being, substance links to the perfection of God in an internal motion that causes an external motion and a change in attributes, that in turn expresses God’s independent existence (2004, p. 50). Thus, existing entities, with their intertwining aspects of existence and matter, dwell in the sensible world *as well as* in an immaterial world that is linked to the Divine stability and simplicity (S. H. Rizvi, 2009, p. 90-95).

An understanding of substance as having changing visible and invisible qualities assists the exploration of digital video and its minimal parts (pixels) as substantial parts of a video. This view of pixels as minimal parts arose from those aspects of my practice that raised the question of substance in digital video. This questioning, informed by the concept of Substantial Motion, has contributed to an approach that aims to move beyond the surface of the image.

3.2 The inherent being

The substance that constitutes an entity leads to further discussion in Sadrā’s philosophy on being and existence. Sadrā considers God as the being who manifests all other beings in His act of being. That is to say, every other entity exists in God’s being, which in turn suggests the unification of God with His creatures. There is then an emergence of similarities between God and entities that then imply God can be known.

to Ibn Sina's concept of the univocity of Being (Marks, 2010a). Deleuze addresses Ibn Sina categories of being in his book *Logic of Sense* (1990, p. 40).

⁴² For Plato, forms are substances: “everything derives its existence from Forms” (Robinson, 2013). Also, for Suhrewardi, who influenced Sadrā, there are degrees of being. The idea of degrees links to Neo-Platonism. Neo-Platonism informed many branches of Islamic thought, including Ibn Sina and, through him, Sadrā.

The transcendental view that God is separate from other entities has been central to Islamic philosophy. This view preserves God's unity, because He is the only One. Thinking of entities as His emanation suggests that God must be plural with many qualities that are separated from Him (Fakhry, 1997, pp. 64-65). The discourse on *being* has a long history in Islamic and Western philosophy, with a majority of philosophers arguing for a separation between God and creatures.⁴³ Through his theory of Substantial Motion and intensification, Sadrā tries to overcome this separation and unite God with beings whilst preserving His own state of Unity. Sadrā proposes a shared meaning between the Divine and entities, intensification and motion. This discussion is important to this section for two reasons. Firstly, Sadrā's approach to overcome the separation between entities and the Divine being is important for the later discussion that suggests an opening of the assumed limitation of his transcendental view in relation to Deleuze and immanence. Secondly, it gives credit to the being of entities and considers being to be real. This will assist an understanding of how digital video is a part of being which is also real; existing as an entity amongst all other entities and in relation to the Divine (see the section The open pixel, pp. 98 ff).

3.2.1 *Being and existence*

Based on Sadrā's view, this section aims to reunite entities with the Divine being, and proposes that all beings are real. The core of this discussion on abstraction and representation recognises the most apparent aspects of entities to be the least real. This is accompanied by the topic of invisibility, which is discussed further in the digital video chapter where the most invisible part of an image seems to also be the most real. Discussion relies on Sadrā's proposition that there are two types of knowledge, one experiential and the other based on the mind.

⁴³ Sadrā deviated significantly from most of his predecessors in that he did not make the principal distinction between being as matter or comprehensible through attributes (the term for 'being' in Arabic is *al-wujūd*, meaning 'what is found' (S. H. Rizvi, 2009, p. 40) and God, who is, according to the Qur'an, beyond form and apprehension, unknowable, without beginning or end (p. 48). Isma'ilis, for instance, held that God is beyond being, and one should not even try to understand God. "The Divine reality was utterly ineffable and impossible to articulate" (p. 58). *Being* is a term that should only be used for creatures who are associated with temporality, 'substance' or 'accident'. God cannot be a being. To protect the ontological distinction between God and the rest, Ibn Sina proposed that the term *being* has no reference or link to God. The term being "arises in the mind to describe the fact that an essence exists" (p. 48) and possesses different meanings, including the being of creatures and that of God. The *being* that applies to God has a different meaning to the *being* of other entities. God is the only true being or "the necessary being" (according to Ibn Sina) – without God, no other beings exist.

In a philosophical context, the debate concerning being and existence has a long history that followed on from Aristotle and Ibn Sina.⁴⁴ While for Ibn Sina the split between being and existence is primary, for Sadrā this separation is an illusion that should be overcome in order to reach “the unity of being” and reunite existence and matter with the *real* (Jambet, 2006, p. 119). Sadrā equates being to existence, while Ibn Sina equates it to quiddity (Jambet, 2006). Quiddity (*mahiyya*) is thingness; the answer to the question of ‘What is this?’ It has qualities, properties and attributes that are known as accidents (*arad*) (I. Kalin, 2010).⁴⁵ In the Aristotelian tradition, which Ibn Sina followed, being is considered in terms of attributes or qualities (quiddity) that are given by God to the existing entity. Existence is a mental concept with no reality. According to Ibn Sina, existence, then, is not essential and is only an accident (*arad*) of quiddity (I. Kalin, 2010, p. 98). In this way, to understand the real, essence or quiddity is important.

However, Sadrā argues that quiddity is an accident that occurs through a mental concept of existence. In other words, to the mind which gives credit to quiddity, existence is considered to be an accident of quiddity (Cooper, 1998). The separation between existence and quiddity is not real: an assumption of separation between the thing and its existence is caused by the ambiguity of the term *being*.⁴⁶ For Sadrā, being is not definable. It is not logically explainable, so it cannot be grasped by the mind. What other philosophers mistake as being is the quiddity that is apparent to the mind. What we usually describe as being is the concept (*mafhum*) and not the reality (*haqiqah*) of being. Existence, on the other hand, is not constituted by being and quiddity. To understand existence, the mind mistakenly divides it into parts. This

⁴⁴ Suhrawardi considers existence as a concept with no reality. Instead quiddity constitutes reality. Sadrā rejects Ibn Sina, and also Suhrawardi, who followed the Aristotelian view of knowledge based on abstraction. Knowledge abstracts the form from the material qualities of an object. The abstracted form then unites with the mind. This view suggests a separation between the existence of the object and its ‘thingness’ (quiddity) as well as the knower and the known (Moris, 2003).

⁴⁵ Qualities and properties of matter such as form, heat and colour are known as accidents when they are contingent. For Aristotle, properties such as quantity, quality, relation and time are also accidents. Quiddity is also known as a logical essence (*mahiyyah*) that can be grasped by the mind (I. Kalin, 2010).

⁴⁶ By distinguishing between existence and the ‘thing’, we differentiate the importance of existence and the importance of the ‘thing’, even though, at the level of the soul, the significance of quiddity does not represent significance of the existence. In such a situation, existence becomes an object, a thing, and a representation. A distinction between the object and existence refers only to their signification. The logical distinction will result in abstraction, which is not real. So, the outcome of our mind includes ‘signification’ and not the unfolding of being or becoming, which is never a ‘signification’ (Jambet, 2006).

is a rational division by the mind because it can only perceive quiddities. Then, the problem in the logic of Ibn Sina and Aristotle is that being is reduced to quiddities, and existence is considered to be an abstract concept. Hence, existence/being is unreal (Ibrahim Kalin, 2004). But for Sadrā, to exist is to be; the existence of the person Zaid is the same as Zaid is. Being and ‘being a thing’ have God as a reference and so they are real. To say that God does not have a being is to deny God (S. H. Rizvi, 2009, p. 70). God and entities share meaning, which is real. This reunification of beings with Divine being suggests ways for knowing God and the reality of being.

As an existentialist, Sadrā seeks to reach the “knowledge of the real” (*maʿrifat al-haqq*) through understanding the being that is in the process of becoming. Sadrā’s discourse on abstraction and representation is concerned with the knowledge and understanding of ‘being’ (*wujūd*) and its ‘reality’.⁴⁷ Things or their images, like ‘being’, entail various possible interpretations; they pose certain qualities (such as colour and form) that are abstracted by the mind in order to gain an understanding of their identity. The image of a being created by the mind, according to Sadrā, is an abstraction, or a representation of the perceived ‘thing’. Representation cannot fully present its presented object; hence, the perceived image cannot be truthful to the represented object.⁴⁸ The true objects of thoughts are not apparent because they are submitted to abstraction (Yazdī, 1992, p. 30). That is to say, we do not perceive the true reality of objects, because the mind needs to abstract them from their reality and so it cannot grasp the objects as they truly are (Moris, 2003). This suggests that every entity has many dimensions that are not easily accessible to the mind. Only a limited range of an object’s aspects can be perceived, and this perception is unique to the

⁴⁷ In *Al-Asfar*, Sadrā gives an in-depth discussion of these notions in relation to the problem of knowledge in its tradition from Aristotle and Ibn Sina. Following Ibn Sina, Sadrā proposes that, to understand reality, philosophy aims to reach the knowledge of the ‘real’ (*maʿrifat al-haqq*) (Jambet, 2006). But for Sadrā, the real can be only understood through understanding the existence and the study of being, while for Ibn Sina, as well as Aristotle, the study of essence is considered important for accessing reality. Ibrahim Kalin (2010), Mahdi Hairi Yazdi (1992), and Zailan Moris (2003), present a thorough study of Sadrā’s approach to knowledge.

⁴⁸ As Jambet (2006) also emphasises, we cannot know God/being through abstractions, and here, Sadrā shares with phenomenology the idea that abstractions prevent us from perceiving what is there. However, while for phenomenology the knowledge of the world is based on matter and the experience of the universe through the body, Sadrā sits on the opposite side, by considering matter as the most insignificant and diminishing thing. Instead, *being* is important. Phenomenology sends us from abstraction back into the world, where as Sadrā wants to get away from abstraction to something that is beyond the world.

individual entity that perceives the object (similar to reading of a Kufic text).⁴⁹ Sadrā's readings of representation and abstraction can also be applied to other contexts, such as the properties of digital video and ordinary lives. In these instances, doubting what is known (*tashkik*) can expand our primary understanding of things and events, enabling us to move beyond *zahir* (what is apparent).

To understand Sadrā's view on representation and perception, it is helpful to have an understanding of his overall approach to knowledge. Sadrā suggests two types of knowledge: abstract knowledge, and experiential or intuitive knowledge (Moris, 2003, p. 183).⁵⁰ For Sadrā, intuitive knowledge (*al-idrak*) is based on the direct experience of the known object. It is closer to its truth because "[t]he known object is immediately present in the knowing subject at the moment of its experience or apprehension" (Moris, 2003, p.4).⁵¹ Thus, feeling heat from fire is an immediate experience without a need for explanation. In the intuitive and experiential form of knowledge, the knower and the known are not separated, rather they are united in "the act of knowing" (Yazdī, 1992, p.40). As soon as the skin approaches the fire, there is felt knowledge of the heat source. Abstract knowledge, on the other hand, is the product of the mind. When the experience of the fire is explained, it is abstracted into a concept that is concerned with reasoning and conclusion about the concept of heat. Mental concepts of being are general, universal and unchangeable (for example, *a tree*), where all existents are particular and singular (*this tree*). When one of their aspects or sense of being (that which is related or shared amongst all other particulars) can be abstracted, it exists as universal. Thus, "the single sense of being exists in the mind" (S. H. Rizvi, 2009, p.82).

⁴⁹ Unlike Ibn Sina, who held that knowledge only causes change in the mind and not in the being, Sadrā argues that change happens in the being of the knower, not only in the mind (Moris, 2003, p.126).

⁵⁰ The Sufi tradition of Ibn Arabi, considers 'being' as God, the only true *existence*. But following the platonic view, the *existent* is a mere illusion. Existing beings are shadows of the true being that is hidden. Hence, applying the term being to entities is only metaphorical. Yet, the true 'concept' of being, that is God, can be known through intuitive experience even though it cannot be known mentally. The latter informed Sadrā's approach to intuitive knowledge. (Andrey Smirnov, 1997)

⁵¹ The term *alidrak* "has been translated as 'perception', but the term semantically means the act of comprehending, apprehending, attaining, grasping, and then finally perceiving in the sense of knowing something directly without mediation. It is used to describe the process of directly apprehending and attaining the quiddity of objects outside the human mind in order to make it intelligible. It is a direct epistemological encounter with the external world through which the potentiality of knowing becomes actuality. This definition also includes sense-experience. For this reason, Mulla Sadrā thinks of sense perception as the first and the lowest modality of intuition (*alidrak*)" (Rahman, 1975, p. 5).

Abstract knowledge arises from intuitive knowledge where reason reflects on an experience and transforms it into a representation. The object of knowledge is then no longer immediately present to the knower but is represented in the mind as an abstraction or a concept (Moris, 2003, p. 4). The concept of heat initially derived from experiential knowledge, but this is no longer easily apparent in the abstraction. That is to say, abstract knowledge is secondary to intuitive knowledge, yet it most commonly is mistaken as the primary form of knowing. Sadrā, although he recognises the necessity for applying abstract knowledge, emphasises the significance of experiential knowledge to understand reality and existence (S. H. Rizvi, 2009, p. 22). The truest account of the reality of being is intuitive experience. I feel my being through my body; even if I cannot describe it, I feel it, and the experience of being has a very close intimacy with being itself. The being of things in the material world causes sensible experiences that are local and transient, while intellectual properties are universal and non-specific (Ibrahim Kalin, 2004).

Sadrā's view on knowledge can assist understanding of the image, where only certain aspects of the video and presented event can become known to our perception. It is also important for the process of my practice that I question the image as a means of moving beyond what is apparent (*zahir*). By moving beyond abstraction and representation, we can think of ways in which all beings share similar meanings and roots, the same reality.

3.2.2 *Being is real*

The reality of entities is measured according to their relation to the Divine; it is not based on their material significance or their abstraction in the mind. This will help us to understand how something that seems as immaterial as digital video can impose reality both through its visible and invisible components.

... the word "being" (*al-wujūd* in Arabic) means not only existence but, more radically, the real in all the senses of the Arabic term *al-haqq*: that which has a right to impose itself as true, authentic, that which is verified beyond all representation and all manifestation, but which also gives to all revelation its power as truth. (Jambet, 2006, p. 21)

By proposing a shared meaning between *being* and entities as beings, Sadrā suggests a unique view of reality. For Sadrā, the real is the One (God), which is being. To grasp the powerful order of realities that stream in beings as existence, we need to understand the *real* (*ma'rifat al haqq*) (Jambet, 2006). God as the most real being, and His reality as existence, is present in all other existing things (*ashya'*) in an act of being. He is being and also existence. There is no such thing as non-existence:⁵² even to say something does not exist is to admit its mental existence. Non-existence is just the absence of the thing from the perception of a particular entity. There are only different levels of perception, depending on the individual entity and how evolved that entity is as a being. These levels determine what is existent and non-existent for that particular entity.

As a realist, Sadrā is interested in anything that can or cannot be thought of as a being with a certain level of reality.⁵³ Objects of our knowledge are either immanent or transitive. Immanent objects, or mental beings, have no association with matter. They do not exist in material form, but in the mind. For example, a unicorn does not have a being *in re* (the material world), but it does have a mental being because it can be thought of. Mental forms, concepts and universal ideas such as blackness, humanity and justice exist as mental beings in the mind. On the other hand, transitive objects, or extra-mental beings, are material objects, and their existence is independent of the mind's perception. My cup exists, even when I am not thinking about it. Other cups also exist, independent from my perception. As forms in *concreto* or *in re* (S. H. Rizvi, 2009, p. 58), they have associations with the universe of matter (Yazdī, 1992, p. 39).⁵⁴ When extra-mental beings are thought about, and thus exist in the mind, they are considered immanent objects or mental beings.⁵⁵ That is to say, any being in the material world also has a mental being (S. H. Rizvi, 2009),

⁵² This opposes Mu'tazila's idea of reality that is composed of existing and non-existing things. Existents (*mujud*) are things (*shay'an*) that can be analysed (this is Mu'tazila's view of the visible and invisible) (Adamson, 2003, pp.57-66).

⁵³ Sadrā, as a realist, considers that "every thought must correspond to a real object, even if it is a Meinong object, that is, an unreal object of cognition" (S. H. Rizvi, 2009, p. 78). Thoughts have abstract existences, but the mind has extra mental being, which is important for gaining knowledge.

⁵⁴ Mental being and extra-mental being are both singular and not universal (S. H. Rizvi, 2009, p. 78). Their distinction is that one is intelligible and the other one is sensible.

⁵⁵ Extra-mental beings, when perceived, are representations of their beings in the perceiver's mind. Represented objects in the mind are for the purpose of knowledge and communication.

the being of something in a particular mind. The mental being of my cup is what I am able to think of my cup, thus it is the mental being of my cup for me.

As an existentialist, Sadrā argues that every existing thing has a certain experience of the universe and reality, because it has a relation to the Divine being. Thus, perception and experience are not limited to human beings. Rather, the further advanced one's being is, the wider the field of perception available and the more the invisible/non-existent becomes visible/existent. A point of view is, then, something that changes according to a being's becoming. As will be discussed in section Becoming-Transformation/change (cf, pp. 62 ff)), the being of an entity is not fixed, because it is in the process of becoming, a state that also influences its perceptual abilities. The quiddity of the material body also informs its experience of the universe and reality. A stone has a certain experience of the universe, which differs from the experiences of a tree or a fly.

3.3 Becoming - Transformation / Change

While the previous section was concerned with representation and abstract knowledge, with being and the real that includes the invisible aspect of entities, this section concerns change and intensification. Internal change allows for entities to move beyond their material existence and reach the Divine. Time and motion then become relevant to an entity's relation to the Divine, which can reveal an existing entity in infinite ways.

Becoming, act of being, Substantial Motion, or transformation are terms that are used to focus this exploration. They share an interest in change, process and intensification, even though they derive from distinct philosophies and theories. A term that still needs some explication is Substantial Motion and I will now consider internal motion and substance in terms of becoming.

Sadrā proposes that through change, entities are distinguishable, yet connected to each other. His suggestion of change, or movement, within stillness makes visible the changing elements within a frame of digital video. In this instance, a seemingly stable image changes internally.

Being in everything is foundation (*al-asl-fi-l-mawjūdiyya*)... It is the principle of individuality (*mabda'al-shakhsiyya*) and the source of the quiddity of the thing (*manshā'mahiyyatihi*). Being can become more intense and become weaker, it can become more perfect and it can become imperfect, yet the individual remains who he is (*al-shakhs huwa huwa*). Do you not see the man from his beginning as a foetus to the end of his being intellects and is intellected while his contexts and situations changes yet the mode of his being and his individuality remains constant. (Sadra in S. H. Rizvi, 2009, pp. 91-92)

In the Aristotelian view of motion, change occurs from one state and instant to another state and instant, without affecting substances. Motion and change, like quiddity, are considered as accidents of categories (e.g., quantity, quality, and place). That substance does not change is essential for safeguarding a thing's singularity and identity, and thereby stability. Hence, for a stable whole, any change of matter has to happen in an unchanging space (an unmoving container allowing change to take place inside it, without losing its wholeness).⁵⁶

Just as with the understanding of quiddity, Sadrā's philosophy of motion rejects the Aristotelian view by introducing change in substance: motion and change are not something external to substance but the reality of substance, its being, is in motion (Cooper, 1998). Here, it is not substance that is primary, as in the Aristotelian view of motion, but being: "the subject (i.e. the substance) is bound to change gradually, and not suddenly, from one species to another or from one class to another" (Sadra quoted in Ibrahim. Kalin, Center for Islam & Science/2003, p. 78). A gradual, invisible transformation takes place in the inner structure (M. Kamal, 2006, p. 72). Sadrā calls "the flow of being" Substantial Motion (*al-harakat al-jawhariyya*). It is not "a motion affecting substances with extrinsic modifications but a transformative motion that affects their substantiality itself" (Jambet, 2006, p. 96). Accordingly, the world is constantly

⁵⁶ Unlike the atomists, who considered change and motion as mere illusions, change in the Aristotelian view is real, but it only applies to external qualities of matter and not substance.

changing in its substance (*jawhar*), and existence is ontologically in motion (S. H. Rizvi, 2009). “To be” is to be in motion, and becoming unfolds God’s reality in an existing being.

Similar to the Islamic Atomist concept of disjointed atoms, which come together only at the command of God, Substantial Motion originates from the source of everlasting Divine grace. It is a state of continuous and interconnected forms which generate change (M. Kamal, 2006). Substantial Motion affects the mental and extra-mental beings of an entity: neither are fixed and both are capable of undergoing intensification and continual change (S. H. Rizvi, 2009, p. 79). Sadrā’s concept of internal motion, as a link to the Divine, causes an external motion and change in attributes that express an “independent existence” (Jambet, 2006, p. 60). However unlike in atomist occasionalism in which atoms cease to exist unless God commands them to continue to exist,⁵⁷ what we perceive as new is not completely new since becoming is continuous at the level of substance. Motion “must always exist without any pause”, and there must also be “a first agent of motion which is eternal and unmoved” (Sadra quoted in Safavi, 2002, p.9); thus, substances change *and* stay the same. Substantial Motion gives appearance to a thing, bringing it into visibility through degrees of actualisation.

According to substantial motion, each entity experiences time differently because of its unique connection to the Divine. Time and becoming are different in different cases. This suggests new ways of thinking about digital video, in which time is no longer dependent on our linear experience. Rather, in digital video, time is formed according to a range of times relative to each pixel. Sadrā’s philosophy allows for such differences: unlike philosophers following Aristotle and Ibn Sina, Sadrā allows for *temporal* time (Akbarian, 2007), in accordance with each particular entity. Time is a “coordinate of being” (S. H. Rizvi, 2009, p. 103) and affects each entity differently. Each entity partakes in the movement of the universe, which individuates in each instance, shaping and reshaping. Over time, becoming (i.e., God’s act of being), unifies infinitely changing entities into a stable whole (Jambet, 2006, chapter 5). While the “temporal flow of matter” is infinite, it is so in a way that is different from “the creative act of God”, which is “unique and

⁵⁷ Occasionalism is the version of atomism advocated by Ibrahim al-Nazzam (d. 845), Abu al-Hudhayl al ‘Allaf (c. 750-841), and al-Ash‘ari (873-935) (Dhanani, 1994, p.44).

eternal as being beyond time, whereas the world-process is *temporally eternal* (i.e. beginningless)” (Rahman, 1975, p. 62, my emphasis).

Of course, time is inseparable from a material, finite world where “at each instant all existence is new in time” (S. H. Rizvi, 2009). It is neither linear nor temporal, even though (if we think of time as defined by *moments*) it can be categorised as past, present and future to quantify motion (M. Kamal, 2006). However, if every moment is passing, we are left with no present, only with change: “there is only Now, and Now is only

an ideal point” (May, 2005, p.46). The only Now is Divine time, of which *temporal time* is a fragment (fig. 14). Accordingly, there is no actual beginning or end. The experience of events as *before* and *after* results from our perception of linear time (Kalin, 2003).

Seeing from above:

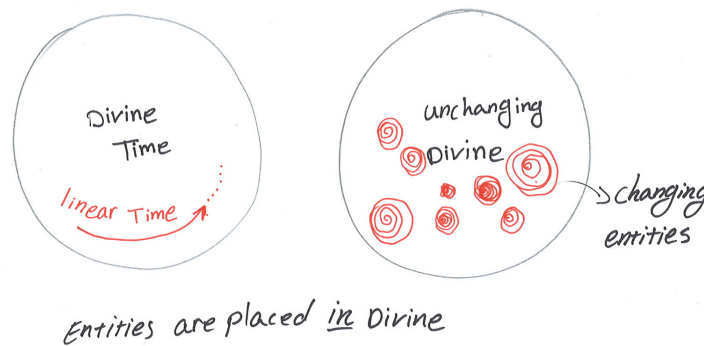


Figure 14. Linear and Divine time according to Substantial Motion [Drawing: Author, 2013]

In each moment, something dies and is born. However, the person Zaid (who we met in the previous section) remains Zaid, even if he passes through different events.⁵⁸ The butterfly both is, and is not, the caterpillar. This unchanging aspect of substance is part of Divine time.

⁵⁸ There are parallels with Deleuze’s view on changing objects: “[I]nstead of an addition of distinct objects on the same plane, we see the object remaining the same, but passing through different planes” (Deleuze, 1989, p. 44). Motion and time divide things to appear distinct from each other (M. Kamal, 2006). That is to say, the singularity of a thing is because of its Substantial Motion.

3.4 Becoming reveals the 'real'

Becoming is a way to reveal the real and to reach the *batin*. This is attained through intensification which involves a process of becoming more singular. In this process, entities come closer to the God who connects them to all other entities. Intensification and unity are central to this discussion. They help to mobilise our understanding of entities as isolated individuals without agility, for instance pixels on the screen's grid.

Intensification is a way of reaching the real that dwells in entities through God's act of being, i.e. Substantial Motion. As quiddities keep unfolding, giving an ongoing existence to the things that individuate, the real is revealed. Individuation is in flux whereby the act of being constantly re-establishes the becoming entity (Jambet, 2006, chapter 4). Hence, a being cannot be reduced to "what a thing is", except in an abstract form as a degree of actualisation of God's act of being (Jambet, 2006, chapter 4). However, as I established earlier, the act of being is not abstract and it cannot be grasped by the mind.

The reality (*haqîqah*) of a thing is the singularity of its act of being, through which it is established, for the thing's 'beingness' [*l'étantité de la chose*] and the fact that it possesses a reality have one and the same signification. (quoted in Jambet, 2006, p. 431)

The dynamic change in the reality of being through substances causes every being to unfold in infinite ways (e.g., colour, shape, taste). Sadrâ refers to the constant dynamic of reality of being as "self-unfolding", or "expansion of being" (*in-bisât al-wujûd*) (Ibrahim Kalin, 2004, p. 84).⁵⁹ As the reality of being expands, the being in a process of unfolding acquires quiddities. These are various stages of being that are unfolded by God and abstracted by the mind (I. Kalin, 2004). Unlike the Sufis who considered the universe as a shadow of reality and the material world as an illusion that hides reality (Seyed Hossein Nasr & Leaman, 1996; S. H. Rizvi, 2009), Sadrâ considers matter to be important for the movement toward Divine reality. He qualifies quiddity and the universe as real because they unfold God's act of being (S. H. Rizvi, 2009). So, if existence is real, which it is for Sadrâ, then quiddities are also real – they just have the lowest degree of reality. The material body, even though it is the least significant, is necessary for the transformative

⁵⁹ This is Jambet's "act of being" (see Jambet, 2006).

movement toward perfection. Quiddity is an index to reality. At the same time, it distracts one from knowing the reality that is present through an act of becoming. Relying mostly and only on quiddity for the act of knowing diverts attention from the source of reality.

God is most real, and the reality of anything else is measured in terms of its relation to God's reality. The further away from God's reality, the less real a thing is. Unlike the Sufis and the Ash'ari theory of *zahir* and *batin*, Sadrā does not consider the real to be hidden, even if it appears thus to the mind. He suggests moving beyond the quiddity in the mind, towards reality. While the reality of being is the most apparent, its quiddity is the most hidden in terms of its origin and "inner-reality" (S. H. Rizvi, 2009, p. 41).⁶⁰ This is a subtle reversal, between what is apparent to perception and what is not – for example, a fish is not aware of water as long as it lives in it, even though it is the most real to its existence. Sadrā thus suggests new ways of knowing reality and moving beyond quiddity.

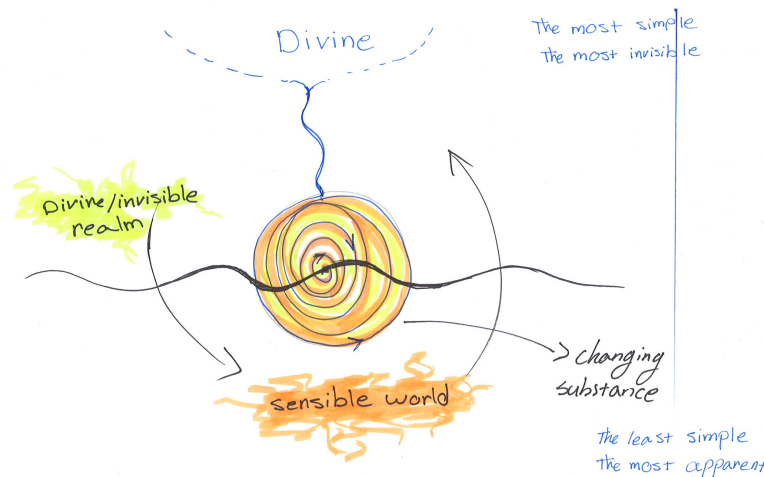


Figure 15. Substance, visible and invisible according to Substantial Motion [Drawing: Author, 2013]

⁶⁰ “[T]he reality of being is the more evident of things (*ajlā al-ashyā'*) by its presence and its inner-revelation (*huduūran wa-kashfan*), and its 'quiddity' is the most hidden (*akhfā*) of things in conception and its inner-reality (*tasawwauran wa-ktināham*)” (Sadrā quoted in S. H. Rizvi, 2009, p.41).

God is the simplest being, with no attributes or properties. Through processes of becoming, entities constantly manifest within his simplicity. His simplicity allows modulation and beings are manifested in his simple reality: “[t]he most manifest is also the most difficult to perceive” (Jambet, 2006, p. 160). The more apparent to the senses things are, the less simple they are. The sensible world is the least real world. Entities continue to exist there because the Divine constantly intervenes through substances. Each entity is intangibly attached to the Divine, as though by an umbilical cord. Substances manifest through God’s act of being and links to the unmoving Divine are the simplest aspects of entities (Jambet, 2006). Their position in between the two worlds provides connection and transmission of the Divine codes to beings, but they also conceal the Divine. Simplicity and individuation result from changing substance and from its contact with both sensible and insensible worlds (see fig. 15) (Jambet, 2006 & S. H. Rizvi, 2009).

The constant exchange between the Divine and material worlds is the origin of internal *and* external changes of substance as manifestation of God’s invisible act of being. For Sadrā, “everything in existence is a proof and a sign of what is in the invisible. [The Divine Name] 'Self-Subsisting' [Al-Qayyum] corresponds to substance” (M. S. Shirazi, 2004, p. 100). Since movement or transformation within a material context is caused by internal motion, and each individual entity consists of both material and immaterial aspects, materiality can reveal the invisible. In the constant transformation of the universe, the ultimate goal is to reach the unchanging Divine that dwells inside each being (M. Kamal, 2006). The more simple a being becomes, the more real and more perfect. Intensification is important here. Through this process of individuation and actualization, entities become more and more singular, and so more and more experiences become available. The species entails the fixity of particulars, whereas concrete singularity liberates them, by inflecting a movement that traverses them and modifies them in the direction of a greater potency of acting and knowing (Jambet, 2006, p.96).

Being, or the real, is the *One* that is God, but graded in intensity (*tashkik al-wujūd*). It is the systematic ambiguity of existence or the modulation of being. This graded intensity brings about multiplicity, without endangering God’s unity. Sadrā uses Shihab al-Din al-Suhrawardi’s theory of light intensity, which suggests that existence is modulated in a similar way. For example, the colour blue can range from light shades to darker shades without becoming a new species. It is the same blue, but more or less intense (S. H. Rizvi, 2009, p. 113). Replacing Suhrawardi’s *quiddity* with *existence* and *being*, Sadrā proposes that the reality of

the Divine is present in all entities, though entities and their reality differ in terms of perfection and imperfection.

Sadrā's model of Substantial Motion considers the intensification of being through its material origin (fig. 16). Here, changes internal to matter are important. While God's constant command to exist and His togetherness with being impels a substance to move in itself, the change of matter in the sensible world also propels inner motion toward spiritual perfection. In the material world, the change of matter is *horizontal motion* (e.g., young Zaid growing old) whereas the movement toward Divine perfection is *vertical motion* (Akbarian, 2007, p. 80). All horizontal motion goes back to a vertical motion that is linked to the Divine (from the sensible world to the higher world).

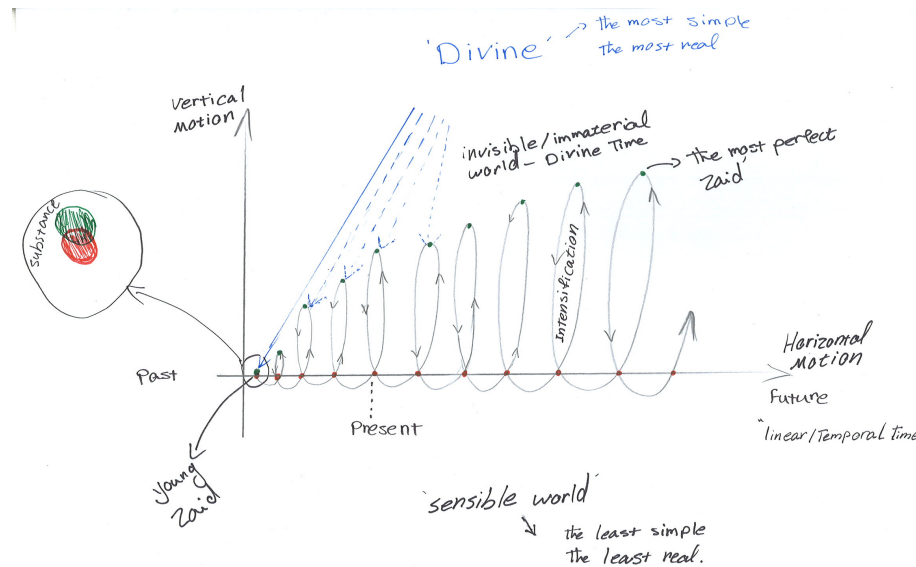


Figure 16. Substantial Motion [Drawing: Author, 2013]

In a vertical hierarchy, the two axes of intensification in figure 16 comprise a movement between the sensible realm and higher realms of the Divine (imaginal and intelligible realms). Horizontally, movement proceeds through an intensification of sensibilia. For example, the intensification from mineral to either vegetable or animal; or from human to perfect man. An entity's place in the hierarchy of beings allows it a

certain point of view. This point of view is constantly changing in accordance with the transformation of being.⁶¹

The more intense a being is, the more perfect it becomes. Through intensification, an entity becomes more and more detached from the quiddity that distracts from the Divine, and thus more real. This is analogous to the editing of a film, where one starts with a large quantity of footage and then strips away unnecessary parts. Through editing, the content becomes more particular and intense, yet also simpler. Essential movement (becoming or Substantial Motion) takes bodily existence to a higher degree of intensification (Jambet, 2006). This is important for the movement toward perfection. The theory of substantial motion and intensification pays attention to the individual entity in relation to a bigger whole. It suggests diversity within the unity of the Divine being.⁶² Multiplicity never endangers God's unity. Instead, conversely, He brings about diversity, in which "the soul is in motion as 'pure act' (*fi'liyya, energeia*)" (S. H. Rizvi, 2009, p. 92). This notion, which promotes an idea of interconnected change affecting all entities, will become

⁶¹ Sadrā, unlike the Sufis, believes that direct transcendence is not possible: it is necessary to work up the scale of being from matter to higher beings, from the sensible to the imaginal to the intelligible, because everything individuates in a single way and in time. It is not possible to say the universe is one with God, and matter and everything else are an illusion. He is arguing not against materialism but against concepts, abstractions or mental being. (S.H. Nasr, 2006, pp. 74-75)

⁶² Most Islamic philosophers proposed an ontological distinction between God and creatures to protect God's unity (see above, p. 56). This separation, however, poses an ontological challenge: if there is no link between God and existing entities, how did they come to be in first place? For a cause to have an effect, for something to bring about another thing, there needs to be either an opposition or something equally the same. God, however, has no opposition, and there is nothing equal or similar to him either. To resolve the problem of multiplicity, Ibn Sina modifies the Aristotelian and Neo-Platonic concept of the First Cause that has nothing equal or opposite to it. God is the First Cause who created the First Intellect from which all other things come into existence in immaterial and then material form. It is "the first limit and the first cause to which the existence of all other beings is bound" (al-Kirmani, 1983, p. 155, quoted in Andrey Smirnov, 1997). "The contemplation by the Necessary Being of Itself generates the First Intellect; and the First Intellect's contemplation of the Necessary Being as well as of itself as contingent being and as necessitated by the Necessary Being (*al-wājib bi'l-ghayr*) leads to the generation of the Second Intellect, the Soul of the First Sphere, and the First Sphere" (S.H. Nasr, 2006, p. 141). Similarly, in the Sufi tradition, from the number one all other numbers exist. Although 'one' is in all other numbers, it is separated and different. All other numbers are inside the one without endangering the unity of one. "The universe in itself is similar to the central dot, the circle and what is there between them. The dot is God, the emptiness outside the circle is non-existence, ... and what is between the dot and the emptiness is possible being" (Ibn 'Arabi, 1859, Vol. 4, p. 275, quoted in Smirnov, 1997). In the relationship between one and many, the notion of "simple reality" is significant. For Sadrā what is prior to all things is the most simple and it is different from anything that comes after. God is the simple being that is devoid of quiddity, and his simplicity cannot be affected by multiplicity, imperfection or any negativity. His being cannot be brought down by the complexity of quiddity.

important in later discussions on practice and digital video. God's simplicity is alone by itself, yet able to be "present in the other being in a different way" (S. H. Rizvi, 2009, p.104).⁶³

The Divine is the "emanator of being" (S. H. Rizvi, 2009, p. 127) and it is exactly Divine simplicity and oneness that provides a platform for the emergence of diversity within it. Reality is a pure being that manifest itself in diverse moods and as different material properties. Yet each being is both unique and one and as such, it shares the being of the Divine. For Sadrā, being means not only existence but also the real (Jambet, 2006, p. 21). To be is to be connected with and to constantly embody the real. Further, being and unity are identical so that where there is being, there is unity (S. H. Rizvi, 2009, p. 70). Every existing entity is unique and one through its reference to the uniqueness and unity of God. "[I]f the multiplicity is found, this is in respect to the unity of time, which is the container. After all, in this multiplicity the *wujud* of the real is in the unity of every one" (Clark in Rizvi, 2009, p.116). The multiplicity of beings and their difference represent degrees of the Divine's manifestation and light. "There is a unity of being and existents in their very diversity" (S. H. Rizvi, 2009, p. 121). Beings are multiple and distinct. Differences are the result of the relations of entities to each other as well as to God. An entity, becoming more or less intense, modifies all of its relations as well as all other entities.

3.5 Process philosophies and Substantial Motion

Deleuze in his texts on cinema and on Leibniz (1986, 1989, 1993) is one Western philosopher who has developed similar concepts of constant becoming. He draws on ideas developed by process philosophers Henri Bergson, Gottfried Wilhelm Leibniz, and also Alfred North Whitehead. In bringing Sadrā's thinking together with Western process philosophies, this section suggests that Sadrā's ontology offers something new to the discussion principally through his notion of intensification. Further, instead of removing hierarchy (like Deleuze and Whitehead), Sadrā introduces dynamic and changing realms of hierarchy through which entities can move.

⁶³ The reality of existence is both many and one, which is the principle of singularity and sameness, multiplicity and difference (Rahman, 1975, p. 38).

Thus far, I have discussed Sadrā's concepts of substance and of quiddities that change constantly, while also changing the interconnected network of entities. Substances are in constant becoming, yet they are simple parts of an entity as the Divine is the only entity that does not move. For Sadrā, "reality comprises monadic vortices" (S. H. Rizvi, 2009, p. 103) and substances are a complex of processes. Rizvi interprets Sadrā's substance as "a vortex, a structure of event that is an act of being" (p. 103) where an event is "a change in substance" (p. 103). The universe is progressing toward a greater interconnected complexity that aims for more simplicity and so perfection. This interpretation of Sadrā's substance has similarities with Whitehead's theory of the interconnected universe.⁶⁴

For Whitehead (1978), everything is both interconnected and individuated and the universe becomes more perfect by being more complex. This is different from Sadrā's idea that the universe is a simple being. A key difference between the ideas of these philosophers lies in their views toward being and matter. As I've discussed earlier in the chapter, for Sadrā the being of a particular matter is more important than quiddity. It undergoes a shift in the scale of intensity, thus changing its relation to the Divine being. For Whitehead, things are events that are in the process of becoming more and more complex through their connections and positive prehensions of other beings.⁶⁵ This is consistent with his position as a monist who tries to avoid hierarchies.

⁶⁴ Whitehead is an atomist philosopher who, unlike other atomists, he considers flow and change. So the universe is not constituted from constantly renewing atoms but process. It is both flow and atomism. This gives his philosophy strong similarities with Sadrā. He uses the term "actual entity" for the smallest unit matter, and "concrecence" for the coming together of actual entities. Marks in *Life in the Manifold: Mulla Sadrā, Deleuze, Whitehead* (forthcoming) in particular explains the commonalities between Sadrā, Whitehead, and Leibniz.

⁶⁵ While I am prehending the light, the singing birds, and a tree outside my window, there are other things that I am prehending without being conscious of, which Whitehead calls negative prehensions (1978). Perhaps the air I breathe, or my cells' feelings are negative prehensions, because I am not aware of them, yet I am influenced by them. Even an event that perished moments ago is a negative prehension, for example, my interaction with a person in the street this morning! That is to say, negative prehensions are virtual. Through these prehensions I am changing and so changing everything else (Whitehead, 1978, Chapter 2).

Whitehead replaces substance with process by introducing the notion of “actual occasion” (the actual entity considered in time). This is similar to Sadrā’s approach to substance as a process of becoming.⁶⁶ Whitehead’s God is an actual entity, akin to Sadrā’s pure being. Other entities are temporal and actual, they are entities that are bound to time and can be analysed in indefinite ways even though some of their aspects are more abstract than the others. Whitehead calls the analysis of the actual entity or actual occasion “prehension”. Actual entities come to know each other through mutual prehension, which creates a “nexus” that is defined as “objectification of actual entities in each other” (1978, p. 226). An actual occasion, unlike Leibniz’s isolated and windowless monad, is instead “all window” (Audi, 1995, p. 852) It is an atom or a cell with complete definition, and its definition is its satisfaction. Satisfaction is reached through prehension: each actual entity is prehending every other actual entity. Once an actual entity’s satisfaction is complete, the actual entity is dead and becomes an objective datum for other things that Whitehead identifies as transition. Transition is “the ‘perpetually perishing’ which is one aspect of the notion of time” (Whitehead, 1978, p. 210). Change is followed by perishing, which becomes part of the process of change for another actual occasion. Perishing is the confirmation of the present with the “‘power’ of the past” (p. 210). When an actual entity perishes it becomes immortal, and thereby virtual.⁶⁷

According to Deleuze’s reading of Bergson, time is always splitting into two parts; the past that is preserved and the present that is passing. For Whitehead, time is simultaneously always perishing and always something that remains. Criticising philosophers who separate continuity and permanence, motion and stillness, Whitehead uses Bergson’s idea that the human mind spatialises the universe and tends to ignore its “fluency” (Whitehead, 1978, p. 209). Similar to Sadrā, he rejects the idea that each entity has a simple spatial or temporal location. Instead, each entity is a field of both temporal and spatial extensions. Our mind tends to spatialise our experiences of time and motion and consequently, we perceive things as static. This is a process that is comparable to abstraction for Sadrā. Hence, motion as one aspect of an entity is abstracted by the mind and the changing entity begins to appear as static. Such a way of looking can free

⁶⁶ There are two kinds of flow: concrescence and transition. Concrescence is the coming together: “the real internal constitution of a particular existence”. Transition is the “satisfaction” or completion of a concrescence, when an entity becomes an objective matter for the other.

⁶⁷ This is Whitehead Similarity to Bergson’s virtual.

Leibniz's monads from their fixed position and allows them to both perceive as well as experience the universe.

Leibniz's universe of monads, in which One multiplies without losing unity, has a certain affinity with Sadrā's interconnected universe that emanates from the One.⁶⁸ There is no gap between Leibniz's monads as entities that refer to "a state of One, a unity that envelops a multiplicity" and "has a power of envelopment and development ..." (Deleuze, 1986, p. 25). Each monad includes the whole universe, but only from a certain point-of-view which is determined by the monad's singular position within the universe. Leibniz's singular point only partially expresses the totality of the universe clearly, everything else is obscure. Thus, I can only clearly express the part of the world that affects me (for example, the paper that I am touching now, the smell of food cooking, and the warmth on my skin of the midday light coming in through the window). The other parts of the world are ambiguous. Even though they are obscure and confused, much like background noise or blurred images in the distance, and although I may not be consciously aware of them, nonetheless they also shape my experience of this moment.

I, like the universe, am also composed of an infinite number of monads (e.g., organs, cells, and atoms) which Leibniz terms "dominated monads". Together, they constitute infinite minimal perceptions. That is to say, each monad (or what I call a unit, or minimal part) inside or outside of my body is at once comprehended through the totality of the universe and comprehending the universe. For instance, if a perception of the universe is included within me, so too is the perception of a leaf's monads, as obscure as they may be. Each monad, therefore, can potentially unfold the whole universe through its point-of-view. That said, it needs to be remembered that Leibniz's monads are isolated units that can only perceive, and only from the particular position they occupy.

Sadrā, like Whitehead, challenges notions of fixity and the isolation of entities. Considered as part of the Divine, each being can be unfolded in infinite ways by God's will. Unlike Leibniz's monad, Sadrā's substance and Whitehead's actual entity do not only act but also change other entities, and therefore

68 See Marks, *Life in the Manifold: Mulla Sadrā, Deleuze, Whitehead* (forthcoming), for more detail discussion.

change the whole.⁶⁹ All created things are interconnected, so every entity exists as an expression of all other entities. Because of this interconnection, what happens to one substance affects every other substance. Thus, according to Deleuze, becoming is a process of transformation and change: “becoming is the pure movement evident in changes between particular events” (Parr, 2005, p. 21). For becoming to be possible, the “plane of immanence” must be open, otherwise there can be no change.⁷⁰ Entities change each other through acting and reacting upon each other. In this way, becoming takes place in an “interval” between the actual and virtual (Gilles Deleuze, 1986, p. 61).

Like Whitehead’s interconnected universe, Deleuze’s plane of immanence has only one level and all things exist in relations. This is distinct from the hierarchical scale that Sadrā considered, in keeping with the ideas of other Islamic Neoplatonist philosophers. While there are principal differences from Deleuze in terms of modalities, Sadrā’s universe also changes constantly and substantially since entities are principally waiting to be opened by God (Kamal, 2006). His notion of intensification resonates with the work of Bergson and Whitehead who hold that the more we perceive and experience the world, the more we individuate.

At this stage, it seems appropriate to bring together Deleuze's concept of cliché and Sadrā's notion of abstraction. Deleuze, using Bergson’s idea of recollection images, proposes possibilities for moving beyond cliché that have similarities with Sadrā’s views of abstraction and intuition. These ideas jointly assist thinking about the image and suggest ways of moving beyond an immediate reaction to images (which Deleuze calls “sensory motor”, (1989, p. 3)).

In Bergson’s universe of images, everything is an image in movement (Bergson, 1912, p. 5). Replacing *substance* and *atom* with image, Bergson regards matter as constituted of images and the universe as

⁶⁹ Similar to Sadrā, Whitehead and Leibniz, Bergson has the “centre of indetermination”.

⁷⁰ Plane of immanence holds virtual and actual: "A plane of immanence can be conceived as a surface upon which all events occur, where events are understood as chance, productive interactions between forces of all kinds. As such, it represents the field of becoming, a 'space' containing all of the possibilities inherent in forces. On this plane, all possible events are brought together, and new connections between them made and continuously dissolved. To think of this field of possibilities means arranging it according to some concept (in Deleuze's specific sense of the word), thereby constructing a temporary and virtual arrangement according to causal, logical and temporal relations." (Stagoll, 2005, pp. 204-205).

matter-flux. Atoms are images, bodies are images. Anything that can be sensed through perception, including internal perceptions such as memory, is an image. Images are neither the matter to which realists refer, nor the representation to which idealists refer. For Bergson, matter is just an image that is perceived and idealism reduces the image to the representation. For Bergson, the image is somewhere in between. Perception extracts aspects from the image to create a new image, but it does not add anything to the image.

Sadrā's concept of abstraction and representation is close to what Deleuze calls *cliché*, which is a form of habitual thought. Deleuze, using Bergson's view of images, argues that we are not able to perceive an image in its totality because habit prevents us from doing this. An example is to see an apple and instantly identify it as food. What we perceive is always less than the image itself because we "only perceive cliché" (Gilles Deleuze, 1986, p. 20). As both *stereotype* and a *snapshot of reality*, cliché requires the least amount of effort and skill to become accessible to the senses. For Deleuze, a cliché is a "sensory-motor image of a thing" (p. 20) whereby our perceptions are determined through ideological, economic or psychological needs. Those needs we aren't interested in go unnoticed until the sensory-motor schema is disturbed, which allows new images to appear. So when perception is challenged, virtual or hidden aspects of the perceived or already actual image can be made visible. Bergson's diagram of the "recollection image" (fig. 17) suggests that one potential for creating anew lies in the gap between the perception-image and movement-image. In this instance, the longer an interval, the more one is able to perceive (Deleuze, 1989, p. 289).⁷¹

Deleuze (following Bergson) does not regard movement as separate and independent from matter since "each change or becoming has its own duration" (Stagoll, 2005, p. 23). This is similar to Sadrā who deemed motion and change as inherent, rather than external, to being. Matter differentiates itself through movement that appears in time, whereby the movements of "pure atoms [...] testify to a reciprocal action of all the parts of the substance, [and] necessarily express modifications, disturbances, changes of energy in

⁷¹ This gap, Deleuze notes, brings one closer to "singularity" (Deleuze, 1989, p. 45). For Sadrā, too, singularity is graded in intensity and perfection in a movement toward a "greater potency". "[I]t will be seen that the progress of attention results in creating anew not only the object perceived, but also the ever widening systems with which it may be bound up; so that in the measure in which the circles B, C, D represent a higher expansion of memory, their reflection attains in B', C', D' deeper strata of reality" (Deleuze, 1989, pp. 44-47).

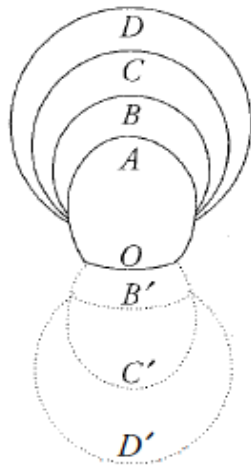


Figure 17. Bergson's diagram of "Recollection Image"
 (In Deleuze's *Cinema 2* (1999))

the whole" (Deleuze, 1986, p. 8).⁷² The universe is a flow of movements which articulate themselves in distinct ways (Deleuze, 1986, pp. 56-60). Time depends neither on the event,⁷³ nor on matter. It is not a container in which events take place to become a measure of movement (Deleuze, 1989, p. 34). Bergson's definition of time is in terms of constant change where motion exists only in time, and space and time are inseparable. Following Bergson, Deleuze describes an image not as a representation of a thing, but as a thing; not an image of a body, but the body as an image (Deleuze, 1986, p. 58).

Sadrā, on the other hand, does not accept the possibility of creating new images, because all ideas and images already exist and are present to God. They only seem new to us when we become aware of them. Yet, we miss so many other images because the mind privileges those we call new images. In our mind, images are always forms of representation and as such they give an unclear view of reality. Sadrā's view is discouraging in the sense that it suggests reaching reality is never fully possible because we are always faced with representation. Deleuze, similarly, warns us of the potential of new images sinking back into cliché (Deleuze, 1989, p. 21). As soon as it is introduced to the sensory-motor schema, the new image becomes part of our habits. There is no easy escape from representation. Our understanding of the universe and the entities within it (including our own being) is always only one angle of the truth. Perception is always opaque and never fully clear, akin to looking through tinted glass. This prevents us from seeing the true reality of entities and events. Every entity in the world only has partial access to reality and, for Sadrā, the only way to move beyond such limits is to discover more aspects of reality. The more we change, the

⁷² Deleuze, using Bergson, gives an example of a glass of water and added sugar that dissolves in time (1986, p. 8).

⁷³ This reference to the event is not same as the Whiteheadian event Deleuze discusses in *The Fold*.

more we perceive. And by extension, the more we come in contact with other beings and their perception, the more real we become.⁷⁴

However, experience is not just a stimulation of bodily senses. From a Sadrian perspective, it has to relate to the root of the thing which is being and existence (See, p. 50, above on *ta'wil*). It needs to go beyond mere sense experience. What might that mean in a culture like ours, particularly within the secular context of digital media that tends to disregard Divinity? There may be a connection that is not immediately obvious. I mean to direct attention towards the way in which digital media content is held together and informed by a set of algorithms⁷⁵ unknown to almost everyone, except those familiar with programming and digital systems (Marks, 2010a). What intrigues the uninitiated is the power these systems have to collect and distribute information and images in an instant, without the need to know the underlying structure that informs how the information is gathered and then accessed by others all over the world. The same applies to moving or still images where it can be said, for example, that the Eiffel tower exists in many more places than just Paris. Easy access to cameras and the desire to hold on to moments has created a "virtual" world where samples of places and times move around in the so-called *cloud*, which is in fact very material and consumes alarmingly large amounts of energy. Today, we are often either looking *through* or *at* frames; either collecting or looking at images; creating samples and data and sending them out into the world, or unfolding and opening existing data. This raises concerns for some film theorists who believe that the digital image is not real any more (cf, p. 58).

For Deleuze, cinema should challenge the way in which our perceptual habits are based on the recognition of an image's known properties, which Deleuze calls "representation". The image that forces us to break the cliché and experience our senses makes us aware of some thing that is imperceptible, where perception cannot form into a conceptual form. For Deleuze, sense perception is not an end in itself. Rather, it comes after the breakdown of clichéd thinking and leads to new thought by revealing "the powerlessness at the heart of thought" (Deleuze, 1989, p. 166). Challenging the sensory-motor schema that Deleuze writes about,

⁷⁴ For Sadrā the interval is the motion, the more motion and change, the more contact a being has with other entities and Divine reality, and the more perception becomes available to him..

⁷⁵ The English word "algorithm" derives from the 12th century Spanish Latinized version of "Algorithmus", the name of the 9th century Eastern Iranian inventor of algebra, al-Khwā rizmī.

results in a more experiential knowledge. For Sadrā, this experiential knowledge is closer to the reality of *things*.

The clay bowl on my table did not mean much when I first bought it. Then, through seeing it every day, I came to see more clearly its imperfections of shape and form. Underneath, I found pale lines, possibly left by a tool that was used to smooth the outer surface. I noticed that it is a handmade clay bowl and wondered about the hands of its maker as they gave form to the formless clay. I wondered which land the clay came from. Now, the bowl is no longer just any bowl, but singular; it is a small, red bowl, produced from a particular clay, with marks that were left while it was made, and with a slightly asymmetric shape. Contemplating the bowl give rise to speculations that connect me to the maker. Of course, the example of my red clay bowl is a simplistic way of looking at abstraction and reality or *zahir*, *batin* and an interpretation of *batin*. But let us stay at this level and try to see how these ideas can assist us to think differently about digital video. In the secular world of digital media, which is similar to Sadrā's universe, there are elements and experiences beyond our immediate physical perception. Through the process of seeking the unknown beyond the already known and apparent, new understandings and experiences can arise.



Figure 18. Looking through [Photograph: author, 2011, Masjed Jameh, Naveen-Iran]

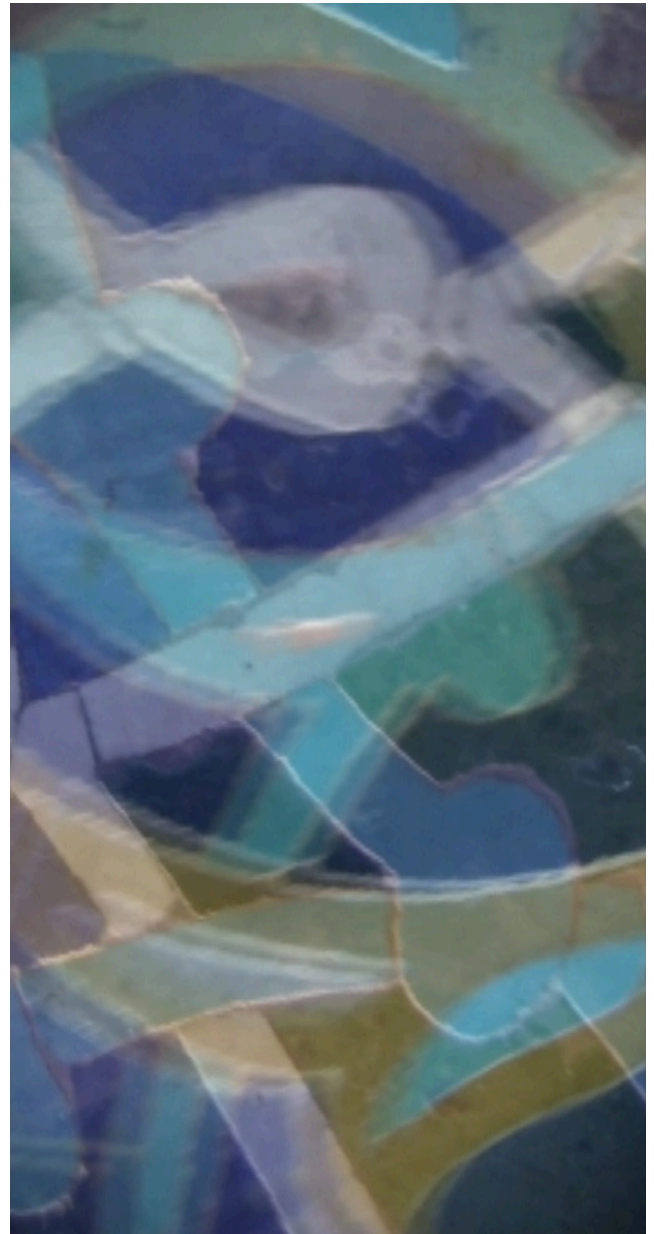


Figure 19. Moving Tiles [Video: Author, 2011]

4 Motion within motion – digital video and Substantial Motion

This chapter is about the relevance of Mulla Sadrā's notion of Substantial Motion for thinking about digital media and for creative practice. Substantial Motion gives credit to all existing entities, their experiences and types of knowledge – this suggests the possibility that even a pixel has a point-of-view. Sadrā's work outlines an ontology in which intimate connections exist between the smallest parts and the One, substance and motion, beings and the universe, the seen and the unseen. In contemporary terms, we can think of these dynamic connections in terms of individuals and their societies, pixels and frames, formlessness and form, materiality and media. We are interconnected, and this ontology impacts on our existence. A pixel is one minimal part amongst other minimal parts in the universe, as are individuals in a society, a leaf of a tree, and cells of a human body. Pixels, images/frames and objects move in the world and are part of the process of transformation and change (Cubitt, 2004, p. 19).

4.1 Sadrā's transcendence and Deleuze's immanence

While the theistic elements of Sadrā's universe might in some ways seem limiting, this perspective is actually open to change. Changes in the interwoven relationships between the visible and invisible, the sensible and divine realms, allow beings to unite with God's existence. These connections can assist our understanding of digital video. Therefore, the first part of this section addresses the apparent tension between transcendence and immanence in Sadrā's and Deleuze's approaches. This leads to a discussion of the virtual and actual in Deleuze. Sadrā's open universe will be important for the later discussion of the open pixel as the minimal part of digital video. A Deleuzian view suggests that a universe that is known to God does not allow for creation of the new. However, as I've just noted, Sadrā's universe can also be open: through the interpenetration of the sensible and the Divine realms, and through intensification.

Unlike classical philosophers, who describe an eternal and closed universe confined by God, Deleuze and other process philosophers (such as Bergson, and Whitehead) attempt to think of the universe as an open

system. Deleuze, following Bergson, argues that in a closed universe of classical philosophy, there is no change or creativity. If an all-seeing God knows everything, there is no possibility of ‘new’ creation. This can be contrasted with the open universe that exists in time and is concerned with motion (Deleuze, 1986, pp. 1-7). To open the closed universe of theologians, Deleuze argues that changes within the universe are due to the processes of actualising the virtual on the plane of immanence: they are not due to God. He breaks away from theologian’s view by rejecting the transcendence of Leibniz, which proposes this universe as “the best possible world”, because God is perfect (Deleuze, 1993). By removing God, all other universes open up, which means one needs to constantly get to know this new universe that is changing in time. New concepts are constantly formed and one should move away from habitual thoughts, which are the products of a closed system.

Through converting the whole to the Open, Deleuze implicitly discards a religious conception of the universe that would have God knowing the contents of the whole. Yet the theological view stays central to his philosophy. Deleuze’s ongoing endeavour to advance immanence, so that the universe can be liberated from the theism of philosophers such as Leibniz and Spinoza, opens up the way for him to create new concepts (Goodchild, 2011) (Marks, forthcoming). The advancement of immanence also makes it possible to discern traces of Islamic philosophies (such as Ibn Sina’s theory of beings) that are present in his work (Marks, 2012).

Deleuze applies the plane of immanence concept to the cinema, suggesting that a frame is an open system in time. Understanding Deleuze’s definition of the frame, and his view on motion as the basic unit of cinema, is relevant to understanding Sadrā’s substance as open. Importantly, it is also relevant for further discussion of the pixel as the minimal part of digital video. Drawing from Bergson’s concept of time, Deleuze brings our attention to the significance of motion over image in cinema. He suggests that movement, as a production of the new at each instant, is not possible within the complete whole of the frame (Deleuze, 1986, p. 7). Rather, Deleuze argues that the basic unit of cinema is not the frame, instead it is motion in space captured within a certain number of frames. Thus, motion creates relations between parts inside and outside of the frame.

Deleuze described the analogue frame as “a relatively closed system” that contains every presented element in the image (1986, p. 12). This frame is a *set* with many *parts*, and each part is a sub-set that can be divided. “The divisibility of content means that the parts belong to various sets, which constantly subdivide into sub-sets or are themselves the sub-set of a larger set and on to infinity” (p. 16). The elements that appear within the frame, such as characters and story elements, also belong to sets outside the frame. For example, *Taste of Cherry* (Ta’*m-e gīlās*) (1997) by Abbas Kiarostami shows the sub-sets of the frame in relation to the sets outside of the perceived frame. For instance, when the camera eventually turns to the film crew, it reveals a bigger set that encloses the sub-sets of the film, such as the actress and location. The viewer is immediately removed from the stable frame of the story. Instead, s/he becomes aware of bigger sets that embrace the frame and story elements.

The frame separates the inside elements from the outside, but through belonging to a set, it also connects the internal elements to a whole (albeit indirectly, see Deleuze, 1986, p.16). Always connected to a larger set, the frame contains sub-sets, which are, in turn, frames for another collection of sub-sets. These sets and sub-sets are formed in continuity with their infinite content, moving from molar (mode of being) to molecular (mode of becoming) and vice versa. That is to say, although the frame inclines toward a closed system that contains its contents, it never achieves complete closure. Motion shows that a frame is not a complete ‘whole’. Instead, it is ‘open’ and relates to an understanding of time that is constituted by changing and moving things/images (p. 9). By transforming the whole to the Open, Deleuze rejects the religious view that it is possible for God to know the whole.⁷⁶ Sadrā, on the other hand, proposes a notion of substance that is open to change and is also in direct relation to God: thus ensuring infinite possibilities to generate relationships between all entities.

“Islam proposes a whole that can be thought as open” (Marks, 2010a, p. 12). Laura Marks discusses the Islamic concern with the unity of God, as the only *One* from which all beings emanate and will fold back into at the end of time (pp. 1- 35). Even though all beings share a similarity through their connection with an infinite Divine unity, there is diversity within the infinity that suggests that the apparently closed

⁷⁶ The whole is not “giveable” because its nature requires constant change and creation of anew; it is “the Open”. In the open, whole things do not exist in themselves but rather they exist in relation to other sets or sub-sets, and relations are always changing. (Deleuze, 1986, p. 7)

universe of theologians must also be infinitely open. There are infinite possibilities and infinite images to be revealed through the universe (Marks, forthcoming). Sadrā himself emphasises this: “The internal space of the imagination” is identified with “the infinite space of the soul” (Jambet, 2006, p. 306). The universe is also open because it is changing in time. By attempting to overcome the separation between existence and the Divine introduced by other philosophers such as Ibn Sina, Sadrā not only locates entities as a part of God’s existence and infinite time, but God’s act of being is also present inside each entity. In effect, this constitutes a dynamic enfolding of the Divine (cf, pp. 66 ff). Sadrā’s concept of Substantial Motion links the unseen and invisible, providing ways of expanding our perception and the reality of our existence. Through Divine acts of being, substance must be open in order to move and cause external changes that eventually affect all other entities, while it is in turn affected by their changes.

As a process philosopher (S. H. Rizvi, 2009, p.28), Sadrā regards the internal change caused by Substantial Motion (as the act of being) as part of substance, but it is not the same as substance. Motion does not constitute an entity, but it continuously manifests an entity through its substance. Accordingly, changes in the sensible world are caused by the internal motion within substance. This internal motion connects one unit or entity to all other units and entities (Jambet, 2006, p. 97). Substance contains the past, the present, and the future by dint of its access to the infinite time of the Divine. It is constantly in a process of actualisation. This is similar to Deleuze’s definitions of actualisation, which includes the cinematic process of actualisation occurring in the open frame. Substance is open, because it is changing and is in contact with the invisible realm. Stretched between two worlds of materiality and immateriality, Substantial Motion allows an entity to experience the infinite (the Divine). It is as if each entity had access to Divine codes, and through this access forms relations with other entities and the cosmos.

Sadrā identifies the process of intensification as movement towards singularity or perfection (Jambet, 2006, p. 353). This is similar to the way in which Deleuze’s thinking encourages freedom from the reductive nature of clichés. Substantial Motion proposes a reciprocal relationship between internal and external transformations that lead towards perfection. Through this process of intensification, more of the virtual and invisible becomes actualised and an entity’s domain of perception expands vastly. Deleuze’s open system enables the constant creation of new concepts (as a result of motion and changing relations). For Sadrā, it is a constant questioning or doubt (*Tashkik*) that expands one’s perception of the universe and its

reality. *Tashkik*, also understood as the systematic modulation of an entity, leads to intensification. My proposition is that Sadrā's ontological approach is productive for digital creative practice, because intensification is a way to free entities that appear to be not free (just like pixels in digital video).⁷⁷

4.2 Comparison of digital and analogue moving image

Analogue and digital moving image are usually conceived as material and immaterial, where the materiality of analogue makes it a more real system. While this is debatable, it is certainly important to establish some differences between analogue and digital moving image (and to be aware of the fact that Deleuze's writings on cinema refer exclusively to analogue film). Understanding these differences assists my evaluation of arguments advanced by film theorists such as Mary Ann Doane (2007), Sean Cubitt (2004) and David Rodowick (2007), whose work engages with the disconnection between the digital image and the outside world.

Doane's (2007) investigation of the concept of 'medium' is useful for thinking about digital video, given that scholars such as Marks (2002) consider that the digital quality of video effaces the concept of medium. A medium is generally considered to be "a material or technical means of aesthetic expression" and holds both possibility and limitation through its materiality (Doane, 2007, p. 130). Using a painting as an example, Doane explains how a canvas provides certain possibilities and qualities, but the materiality of its flat surface also provides a form of resistance. It can support certain expressions because it excludes other elements. The reflexive nature of limitations proposed by a medium necessarily prevents a "complete

⁷⁷ Despite the differences between Deleuze's universe of immanence and Sadrā's transcendental approach in regard to God and hierarchy, both philosophers suggest a cosmology that concerns existence and rejects nonexistence. Deleuze proposes that the only existence is the plane of immanence in which virtualities are in a constant process of actualisation, and virtualities themselves are in process; there is no nonexistence. Similarly, Sadrā argues that there is only existence that is God's being. In the absolute existence of God, there cannot be such a thing as non-existence or "absolute nothingness" (Muhammad Kamal, 2010, p. 132). The ideas of nothingness, negativity (negation), or nonbeing are concerned with either the absence of knowledge of something, or the ontological weakness of a being. To help understand that seemingly non-existing things have nonetheless relative existence, Sadrā proposes the concepts of *mental beings* and *extra-mental beings*: things that exist in an immaterial form (in the mind), and things that are manifested in a material form (which are beings with a relative existence). Furthermore, in addition to mental beings that are not manifested in the material realm, every existing entity (extra-mental being) has a mental being. Something that does not or cannot exist physically nevertheless has a mental being, and so we can think of it as also having a certain existence (cf, p 61).

illusion", or complete verisimilitude. That is to say, the qualities of the medium are present within the work: for example, in the way the texture of a brush appears on the canvas. Therefore, a viewer's "knowledge" of the realities of the medium and the external world the medium expresses is constantly being affirmed by the limitations of the medium.

In the case of the film medium, an image results from the contact of light with the chemical material of the film. The link between the image and the object can be followed from the reflected light to film emulsion and from there to the resulting image. A digital image, by contrast, has no apparent indexical link with the object; there is an object, then there is a conversion into data, and then there is a digital image of that object. The digitisation process involves translating continuous signal into discrete packets of information, thus attenuating the connection between the image and the filmed object (Rodowick, 2007, p. 119).

What happens in the process between the camera picking up on the reflected light from an object and the production of the image can assist an understanding of the disconnection between the image and the real object. Lev Manovich (2001) explains the technical process involved in the production of digital video, whereby the reflected lighting from an object converts into an algorithm of numerical values as soon as it touches the camera's sensors. The numerical algorithm reduces the gap between the filmed object and the image to numbers and cuts off any apparent physical connection between the reflected light and the final image. There is no chemical process of connection (as with film), which in turn suggests that the digital image lacks a true medium.

However, Doane suggests that "[I]t is ultimately impossible either to reduce the concept of medium to materiality or to disengage it from that notion" (2007, p.131). Digital video is a medium that has limitations *and* possibilities, negation *and* affirmation. Its possibilities are in what we perceive as affirmation, and its limitations are in what we think of as negation. If a medium holds both possibility and limitation in its creation of aesthetic expressions, then the creative possibilities of digital video are in their very nature located in the apparent lack of connection to the filmed object. The disconnection that seems to concern film theorists can be recognised as a significant potential of digital video, which can give us access to the apparently immaterial aspects of its being, as well as the manifest aspects of the filmed object. *Immateriality* here is a relative term since digital video relies on some very material facts. For instance, the

resolution of the image results from the number of pixels, which in turn result from the amount of video storage assigned to each video frame. In this respect, *invisible* is not the same as *immaterial*.

Furthermore, from a technological perspective, Marks (2002) argues that “the fundamental stuff of the database, arrays of quiescent or excited subatomic particles, has a life of its own” and digital video still “indexes the physicality and mortality of its medium” (p. 6). As Marks (2002) postulates, with reference to physicist David Bohm as well as Manuel De Landa’s work on quantum physics and wave theory, each electron “‘remembers’ where it came from” (p. 167) and each particle “‘knows’ what the other is doing” (p. 166). This memory links a single electron to other electrons, although they are physically apart. “If all matter is intimately interconnected by wave-surfing electrons, then all electronic images have an indexical or analogue connection – to matter” (p. 168). Given that the separated parts are still linked, they “affect each other as part of a single system” (p. 167). This connection, similar to Sadrā’s world-view, suggests a system of movement and space that does not necessarily appear to our perception: instead they have their own relation and consistency. Following Doane and Marks, as well as the observations of my practice and theory of Substantial Motion, I wish to argue for the possibilities presented by these ambiguities with reference to the way in which pixels can enable a connection between digital media and the represented object. If the materiality of the brush in painting provides certain textures and if the chemical process in analogue film gives a grain to each still frame, digital media also bears signs of materiality through the pixel.

Differences between the materiality of analogue and digital media determine distinctions between analogue and digital frames. In analogue film, a frame is one of many images that constitute a moving image, and Cubitt considers it to be the minimal part of film. In *The Cinema Effect* (2004), Cubitt follows Deleuze by making a call to reframe contemporary understandings of the cinematic in terms of a digital present so that it is possible to identify a frame as a temporal pixel (p. 33). This pixel/frame is the fundamental unit of the moving image (p. 33). The analogue film frame rate of 24 frames per second is necessary to create an effect of smooth motion and duration. A convention of digital video technology and editing software is to imitate film frames, even though in digital video, unlike analogue film, frames no longer pass sequentially in a horizontal line one after another. Instead, images are constantly replaced within a single frame where the contents of the frame (pixels) appear and disappear. In contrast to

analogue film, it is the pixel and not the frame that is the minimal part of digital video and the pixel is changing within itself as a consequence of its relationship to the algorithm and the differing percentage of received codes.

Within the context of Deleuze's open frame, Cubitt also reads the frame/image as a matter of duration, in which the present is registered in the frame, the "pixel". Cubitt also distinguishes between the frame and the "frameline", where the latter differentiates and separates the frame and its contents from other frames (2004, p. 33). While the frame is apparent and visible, the frameline disappears in the projection of the image and stays invisible. The invisibility of framelines helps the viewer to experience the moving image in terms of what is happening 'now'. This 'now', the instant of seeing, is the frame. It is situated in the present. As viewers, we are concerned with the frame (as motion) and not the passing framelines that create movement. He argues that the frameline, as a form of separation, differentiates the past and the future (p. 32). Here, Cubitt is following Deleuze's claim (after Bergson), that the image is at once past and present (1989, p. 79). The present is the origin of the past *and* also distinguishes the past from the present. The present can never be grasped as it is always passing. As a result, we only experience a "recollection of the present" as the past. Time differentiates and splits itself into the present that is passing, and the past that is preserved in the present (pp. 81-82). Following Deleuze and Bergson's line of thinking, Cubitt suggests that the past, present and future of analogue film time comes to be known through the present. That is, through the frame or the "pixel" (p. 33). Yet this very present is the most absent in our experience because of the invisibility of the passing frameline. Insofar as the frame/image is the most present element in the film, it constitutes the origin of time (it is open) and is the most fundamental unit of the moving image.

Cubitt's (2004) understanding of the frame as the minimal part of film is a useful transition to the argument I develop in the following sections for the connection that pixels make to the real world (see section The Open Pixel, p 98). However, to better understand the implications of this argument it is necessary to engage with views that raise questions about the fleeting connection pixels can make with the outside world (Marks, 2002, p. 5).⁷⁸ In particular, Rodowick (2007) basing his critique on the fragmented

⁷⁸ For further discussion on this critique see Ellis (2009, p. 68) and Marks (2002).

quality of the digital image, questioning its “existence” as a singular and stable image by stating that the digital image is not “*an* 'image'” (p. 94) precisely because its images are constantly replaced within a single frame. He argues that if the digital image is not “*an* image”, then its relation to time, particularly the past, is in doubt. The question then arises: “how to place or situate ourselves, in space and time, in relation to an image that doesn't seem to be “one”” (p. 94).

Rodowick (2007) disputes the notion that the digital image is “perceptually realistic”. According to Rodowick's criteria, representation and reality are measured through human experiences of the material world. Thus, for a digital image to be convincing as real, it should be “representational” (p. 102), and as representation should “correspond” to something that relates to viewers' experiences of the material or “three-dimensional” world. However, a digital image can't be “perceptually representational” because it is made up of many smaller parts that lose their connection to represented objects in the process of digitisation (p. 102).⁷⁹

Rodowick's argument about representation is based on visibility, an essentialist understanding of what the image is. To critique this, it is useful to recall Sadrā's argument that the mind assigns reality to quiddity and mistakes it as real. Similarly, the mind mistakes the perceived image for a representation of reality. From this perspective, the still image of analogue film appears more real. This analogue frame, as an identifiable entity, gives an identity to the image as *an* image, which is representational to the mind. We separate our world and ourselves from the image. From this perspective, the frame becomes a window to look *at* but not to look *in*. To look *at* something is to close it, and to interpret it. Therefore, from a Sadrian perspective, Rodowick's argument that the film frame is more real than the digital frame within which images are constantly replaced is incorrect. Instead, I wish to argue that to look *into* something is to open it,

The video *Screen – Pixel* (2011) (see the chapter, In Search for a Magic Lanten, p. 139), shows the beginning of this investigation between the pixel and the outside world by isolating pixels through intense close-up.

⁷⁹ The three-dimensional universe is only three-dimensional because of light. We perceive because of light. God is light. That which connects everything is light. A pixel is light. There is no disruption in light. It is continuous, like existence. “[K]now that what is meant by light is that which is manifest in itself and manifested in others (*al-zāhir bi-dhatihi wa-l-muzhir bi-ghayrihi*) and is co-extensive (*musāwīq*) and synonymous with being. Rather it is itself a simple reality (*haqīqa baīta*) like being with divisions, such as Necessary and all else, intelligible, psych and corporeal lights. The necessary is the light of lights of infinite intensity (*nur al-anwār ghayr mutanāhi-l-shidda*), while everything else is of infinite intensity, meaning that there is something about them in intensity” (Sadrā, in S. H. Rizvi, 2009, p. 71).

to experience it, and, eventually, to discover the potentiality of its relation to other sets, beings, and images. From this view, digital video challenges the perceived stability of an identified image. Our perception creates the division between entities in the world, which includes the distinction between an image as representation and the represented object that is associated with it.

The view that considers the *still* image of analogue film as significant in creating movement without endangering the whole, is a reminder of the Aristotelian tradition that argues for an unchanging substance of a changing matter. This view holds that substance cannot change: otherwise there would be no stability in the whole. Similarly, the frame, as a minimal part, cannot change, or become more or less, otherwise it will not be a whole and will lose its link to reality. Consequently, time is external to matter. It is linear in relation to human perception. Correspondingly, Rodowick's still image, as a single frame, is an abstraction by the mind to a single whole. Consequently, in his view, a still image is capable of representing a form outside of the frame (the filmed object). Time is then only linear; a single frame is an instant of the passing time. However, this is an external time, not the internal time of each constituting element. Hence, we give credit only to linear time, and not to existential time. In terms of linear time, we need to "situate ourselves, in space and in time" (2007, p. 94), but existential time is experienced through our own ontological condition and in connection to the being of the other entities.

Having established some technical and material differences between analogue (film) and digital (video) moving image, and the reasons that cause some to think of digital media as cut off from the outside world, the following section explores the *virtual* nature of moving image, as a way of opening the image to the process of becoming as well as becoming aware of its processes. A later section of this chapter, *The Open Pixel*, attends to these differences by investigating the relationship between the inside and outside of the video frame through Sadrā's concept of Substantial Motion and pixel as the minimal part of digital video.

4.3 Changing virtual

Sadrā's notion of a being, with its implicit dynamic hierarchies which change both in both the visible and invisible realms, gives new dimension to Deleuze's concept of the virtual. To think of the visible *and* invisible (but also the actual *and* virtual) as changing offers a way into thinking about the pixel of moving image *and* the image itself as open to the dynamic potential of 'changing'.

The concept of the *nonexistent* has a great presence in many schools of Islamic philosophy. Early mainstream Sunni thought rejected the existence of non-existent things, while the Mu'tazila argued that non-existent things do exist because God can command them to come into existence (Wisnovsky, 2005, p. 106) Sadrā, like the Mu'tazila as well as Deleuze, argues that there is no such thing as 'non-existence'. A thing may be invisible but it nevertheless exists. The invisible, for him, concerns the absence of something from perception, or the abstraction imposed by the mind. In his universe of pure existence, things are only absent from the entities' spectrum of knowledge. Hence, the invisibility of things is caused by a state of "not knowing" (Kamal, 2010, p. 122). The aspects of visible and invisible, material and spiritual, are not oppositions. Rather, because of the entities' connection to the invisible realm of the divine, they co-exist within a being. By expanding the existence of these entities, more of the invisible becomes visible and known to an entity. It becomes more intense and singular. The understanding of invisibility as absence, rather than non-existence, is helpful for thinking about digital media insofar as the medium is constituted through pixels, codes and an underlying structure that is invisible on the screen (albeit to everyone but the programmer).

As noted earlier, Sadrā's process of intensification finds a parallel in Deleuze's thinking about the plane of immanence (cf, p. 75). Through a process of actualisation, the relationship between actual and virtual,⁸⁰

⁸⁰ Virtual and actual are "two mutually exclusive, yet jointly sufficient, characterisations of the real. The actual/real are states of affairs, bodies, bodily mixtures and individuals. The virtual/real are incorporeal events and singularities on a plane of consistency ... "(Parr, 2005, pp. 296-97) "Actualization belongs to the virtual" whereas the actual is "the object of actualization" (Deleuze & Parnet, 1977, p. 149). Importantly, virtual images can act upon actual objects (149), but the actual does not act upon the virtual. Both virtual and actual are real and they coexist in a sense that the presence of one does not demand an absence of the other (Gilles Deleuze, 1989, p. 44). An "[a]ctual

visible and invisible, is constantly remade as connections between these states are established and dissolved. This process, like Sadrā's method of the invisible becoming visible, produces singularisation. The plane of immanence, like Sadrā's pure existence, holds actuality along with virtuality. That is, things that become actual and things that do not exist yet have the potential to *become*. Deleuze's notion that every actual has many virtuals has a parallel in Sadrā's thinking that each perceived entity has imperceptible aspects that, due to abstraction, are not perceived. Applying Sadrā's and Deleuze's views to the moving image, I suggest that what we see as an image is only a small part of its reality. For what becomes amenable to understanding always undergoes processes of abstraction, producing clichés, which are unhelpful when it comes to understanding manifold reality and expanding perception. With digital media, the virtual can be actualised through an increased understanding of the invisibility that exists at the levels of pixels and algorithms, and the connections they establish with the world outside the frame.

Sadrā argues that everything, apart from the Divine, is changing in the sensible (material/visible) as well as the imperceptible (immaterial/invisible) realm (Sadrā cited in Akbarian, Springer/2007, p. 77). Beings, and their visible and invisible aspects, are changing in *both* realms. They “carry in themselves” a “precariousness”, an “instability of being” (Jambet, 2006, p. 192), which propels the process of intensification or *tashkik*.⁸¹ This instability is defined by the level of intensity a being has with relation to God's existence (to become perfect, and thereby closer to God's existence, it depends on God's act of being). Extending the analogy between the invisible realm in Sadrā and the virtual in Deleuze, the instability of being may concern not only the actual but also the virtual, and change would also occur in this realm. Sadrā's concept of the invisible corresponds to what is *perceptually* virtual. His interweaving relationships between invisible and visible realms correspond to the relationships between the actual and the virtual of Deleuze. This suggests that the actual also acts upon the virtual (Deleuze), just as the visible acts on the invisible (Sadrā).⁸²

image itself has a virtual image which corresponds to it” (p. 69) and, similar to Sadrā, “purely actual object don't exist” for Deleuze (Deleuze & Parnet, 1977, p. 148).

⁸¹ Also, the instability of being causes curiosity and *tashkik* (doubt), as a drive toward Divine perfection. Adducing a concept of minimal part from Islamic atomism here, one could say that their minimal parts are also undergoing these changes and are instable in their beings (cf, p. 54).

⁸² In my creative practice, this idea suggested that (at the level of the image) we are generally aware of sub-sets within a frame, but less aware of the set outside of the frame and the relationship of the image with the outside set. Going back to the same image, the viewer relates it

We can think of a pixel in terms of Deleuze's actual and virtual and of Sadrā's changing invisible. Here, it is important to hold in mind the two values of a pixel: black and white (0/1, 'on' and 'off') and coloured (a spectrum of values between 0 and 222). In a black and white video, the shades of grey are formed according to the 'on' and 'off' states of pixels as well as their placement next to each other on the pixel grid. A single pixel contains both white *and* black. That is to say, in a pixel in the state of 'off'/black, 'on'/white is absent. So, 'on'/white is virtual to a state of 'off'/black and vice versa. In this instance, Sadrā's concept of a changing invisible can account for a process of change without actualisation. Now consider a coloured pixel containing three different colours (red, green, blue) in different intensities, each based on codes from 0 to 222. The colour is formed gradually in each of the three colour elements *before* the pixel temporarily appears as a certain colour. A pixel can change from a black or 'off' state, to different shades of (say) orange, depending on the range of values that are assigned to each RGB. To use Deleuze's terms, certain colours are actual in the pixel, and others are virtual. Sadrā would say that the pixel's invisible colour is changing, even though it is not actualised.⁸³ In terms of creative practice, thinking about the invisible as changing, even before it is actualised for perception, helps us be attentive to the possible changes preceding our determinations and assisting the actualisation of the invisible.

Deleuze writes, "[e]very actual surrounds itself with a cloud of virtual images" which last for an infinitesimally brief period and renew themselves by emitting yet other virtuals (Gilles Deleuze & Parnet, 1977, p. 148). This means that "the cloud of virtual images" (p. 148)(those that relate to an actualised entity but are not actualised themselves) also change through any process of actualisation that takes place. Sadrā's idea, that the realm of the invisible changes constantly, complements Deleuze's view. However, in Sadrā's scheme, changes in the invisible realm are not dependent on changes pertaining to actual entities (and, by extension, of their virtuals). From a Deleuzian perspective, the change in one entity (and its

to so many other things, and many more of the image's virtual aspects become actual. In the case of the digital image, the more a technology attempts to hide its underlying structure (which is generally the case for HD technology), the less we are aware of sub-sets within the image, including pixels.

⁸³ I understand that virtuals of Deleuze are not fixed. But in my reading of Deleuze, I have interpreted that the change of virtuals is dependent on the process of actualisation. For Sadrā, on the other hand, the invisible is changing independently from the process of actualisation (there are invisibles that may never come into being and they may have no connection to the visible world either, but they still change). This difference between Deleuze's changing virtual and Sadrā's changing invisible comes from their different approaches concerning immanent and transcendent; for Deleuze, the virtual and actual are changing each other, for Sadrā, the act of being is the original mover, even though the visible and invisible change each other too.

virtual) always changes the whole. This suggests that the actualised virtual results from the changing relations and entities in the entire virtual realm that precede its unfolding into an actual, material entity. The virtual invisibly changes up to a certain point until it is unfolded by an actual entity. The virtual that can actualise now will be different from the virtual that could unfold in the next moment.⁸⁴

A moving image is an actuality, the perceptible manifestation of an ongoing process. However, it can change, and in my research for this thesis I found that upon every return to a particular piece, something new arose.⁸⁵ I never returned to the same image or the same place, because the image and my relationship to it never stopped changing. This precariousness and instability was part of an actualisation that required a basic openness and willingness to allow change to happen. Kiarostami, in *Taste of Cherry* (1997) and *Where is the Friend's House?* (1987), involved ordinary people instead of professional actors and allowed them to bring their own character and influence to the film. Rather than following the script, they responded to the story in an intuitive way. Thus, he permitted the film to stay open to the possibility of invisible elements forming and changing the film, leaving the elements of the film (such as the script) exposed. In both movies, we see the repetition of similar scenes, such as driving a car (*Taste of Cherry*) or running on narrow paths from place to place (*Where is the Friend's House?*). Returning to similar scenes or events (like the man in *Taste of Cherry* who drives through the suburb to find someone who will accept his request) creates events that unfold new aspects and new incidents within the storyline. Through the constant return and repetition of similar events, layers of meaning also become visible for a viewer in a way that make the film's experience more intense.

⁸⁴ For Mulla Sadrā, unlike many other philosophers, forms created by the imagination have an immaterial reality; they are not in the brain and not in the imagined. They are mental beings in the realm of conceivable entities. A human has the power to create or, more accurately, reveal images based on his/her own intellect and mind. But a truer creativity, which involves divine reality, is connected to the active intellect as in the prophets and mystics. This is a different level of creativity: one is limited to the mental aspects of human being and the other one is connected to the infinite. Sadrā's view of imagined forms brings great potential for further investigations into creative thinking and making.

⁸⁵ Instances in my practice have prompted the notion of a changing virtual that changes the actual. The process involved in the recording and making of the video *The Gaze* can be an example of a changing virtual (cf. pp. 120 f).

It was through these processes concerning the visible and the invisible (the actual and the virtual) that attention in my practice was focused on the pixel as minimal part, which through its contact with the outside can open new possibilities for expanding our perception and imagination.

4.4 The open pixel

While most film theorists approach a moving image and its visuality from the outside, with concern for an image's relation to the three-dimensional world, my approach is from the inside out. Moving from the seemingly immaterial and invisible (i.e., pixel) to the material and apparent (i.e., the image), the frame/pixel relationship is no longer a relatively closed system, cut off from the outside world. In this section, I will discuss the becoming of a pixel according to Sadrā's ontology, and the underlying invisible aspects that give form to an image. To do so, notions such as change and intensification, or form and formlessness, are crucial. Pixels can be considered as the minimal parts and substance of digital video, open to the invisible (algorithmic) realm as well as the earthly image of the universe. As I suggested in the previous section, considering the invisible within the screen draws attention to what we don't immediately see and what is constantly changing. Focusing on pixel, this section attends to the unseen and, through Sadrā's ontology, an interconnection that unifies all beings.

The word *pixel* goes back to the early 1960s, derived from the term "picture element" (Galloway, 2009, p. 499). The Oxford English Dictionary defines pixel as "a minute area of illumination on a display screen, one of many from which an image is composed" (2006). It is also a sample unit on the camera sensor that is usually invisible. The pixel is a little square of light, which has a numerical value. It is the atom of a digital image just as a frame is the atom of film: indivisible themselves they construct larger entities (Galloway, 2009, p. 499). The pixel, as a minimal part, is physically and functionally indivisible. Hence, for a pixel of digital video that is both a minimal part (physically indivisible and simple) and substance (both invisible and visible), I utilise the Mutakallimun's homonymic use of the term *jawhar*, which is used for both substance as well as atom (*juz*) (cf. pp. 53 ff). Following Sadrā (see p. 68, above), pixels are the simplest elements of digital video. As minimal parts, pixels constitute the whole of an image and, by their own changing, provide change for the image. Like Sadrā's substances, pixels are open because they change and

contain both visible and invisible qualities (see p. 55, & p. 68 above). Because of these qualities, pixels are of interest for understanding digital media through Substantial Motion.

In digital video, a pixel resembles Deleuze's frame and Cubitt's frame-as-"pixel" (see p. 90, above). Cubitt refers to the frame in analogue film as "the cinematic present" (Cubitt, 2004, p. 33). He equates this to the pixel, suggesting that the frame that is visible on the screen has the same temporal quality as the pixel. He then compares the frame (and by implication the pixel) to the number zero: "like the point of origin of graphs" they "can be given a number: zero" (p. 33).⁸⁶ Zero, as the origin of all numbers, is present (and yet not present) in all other numbers. Through its relation to all other numbers, zero acts on the cardinal numbers, just as the frame acts temporally in relation to other frames. Importantly, Cubitt's frame/pixel is not isolated but (following Deleuze) is an open element that unites movement with and within the image. For the purposes of my thesis, the pixel of digital video has similar capacities.

In this context, there are two aspects that are relevant to this discussion. Firstly, the pixel's connection with the invisible realm of algorithms and secondly, its formal connection with a grid. The pixel's entanglement with mathematics means that each pixel in an image is constantly changed by the algorithm regulating their on/off status, rate of change, and saturation. The algorithmic operations on a simple nonfigurative unit make the pixel a vortex of events, constantly shaped and reshaped between the inside and outside of the frame/image (S. H. Rizvi, 2009, p. 103) (cf, p. 72). The pixel's square form is determined by the overall grid of camera and screen, enabling a field through which the seemingly isolated pixels are interconnected, enabling them to work together. The square shape and process of algorithmic change are interwoven and dependent on each other in the creation of a moving image. As in Sadrā's *simple substance*, they define a pixel's visible and invisible qualities, which change through a series of complex processes (cf, p. 55). In the constant regeneration of pixels as minimal parts, time and motion keep unfolding sequentially. The distinctiveness of the video pixel is its connection to the non-temporal presence of the infinite realm.

⁸⁶ The dot of Bismillah (meaning "In the name of God"), which opens each chapter in the Quran, beholds the entire universe, in a similar way.

Two themes, then, become significant. Firstly, internal change (or becoming) in the coexistence of visible and invisible aspects within a pixel. Secondly, the creation of forms from the formless state through the internal change of parts. I propose that Substantial Motion, within a digital video, helps us understand an underlying motion that connects the video to outside events. Attention to the internal change of pixels puts in question the common understanding of the fixity of pixels as disconnected from the world outside the frame, as exemplified by Rodowick (cf, pp. 88 ff).

Cubitt's discussion of zero (holding all other numbers), and present (containing past and future), can be linked to Sadrā's discussion of unit and unity. In this instance, all entities emanate from the One, without endangering the unity of One. The latter is invisibly present and a part of all other beings through an act of becoming where "being and nonbeing are reciprocal terms; one ceaselessly pass[ing] into the other" (Jambet, 2006, p. 193). In this movement each part "entails the nothingness of another part", and motion "is indissolubly disappearance, one thing after another, and reduction of being, one thing after another" (p. 193).⁸⁷ Nothingness, in this instance like Cubitt's zero, is not really nothingness, but an invisibility that is both ontological and perceptual (see *Changing Virtual*, pp. 94 ff, above). It is an apparent absence that encourages internal change. This absence takes us back to the Sadrian sense of emanated entities that are driven back towards unity and the One through intensification.

Similarly, each pixel is differentiating itself on multiple levels, without losing its singularity as one, like a becoming-substance in the process of intensification. Becoming-pixel involves internal change in each pixel, triggered by codes that are activated through connection with the world outside the frame.⁸⁸ The neutral state of a pixel, a zero state of potentiality, affords the differentiation of pixels. A pixel (both virtual *and* actual, absent *and* present, visible *and* invisible) is continuously folding from one state to another. Here, the virtual (or the zero state) is pregnant with the actual, and the actual is pregnant with the virtual,

⁸⁷ From an ontological perspective, nothingness is relative, not absolute; it is "weakness", or a partial state of an entity that is in the process of becoming (Jambet, 2006, p. 203). Every existing entity has a relative nothingness, or non-being. As an existing entity, a being has ontological needs. "Nonbeing is enveloped in thought's being, but the latter in turn falls under a sort of nonbeing that hinders its own potential" (Jambet, 2006, p. 91). This "existential need" is an entity's state of nonbeing or nothingness, where its existence is dependable on God's existence (Akbarian, 2007, p. 81). According to Sadrā, this state of need and weakness is what drives change.

⁸⁸ In thinking about becoming-pixel, one has to be mindful of the differences between analogue and digital moving image. Deleuze's ideas apply partially, and sometimes in a substantially altered form.

each state awaiting involution. Upon involution, the actual contains parts of the previous state of the virtual, and similarly the virtual contains parts of the actual. This internal motion is a constant renewal leading to intensification, rather than something altogether new. A helpful figure is Sadrā's analogy (using Ibn Sina) of a man putting on different layers of clothing, where the man himself stays the same through the process.

We only become aware of change at the level of pixels. This is a different experience from that of motion as a whole, when the motion is varied between adjacent pixels inside a frame. In digital video, movement is directed not from point A to point B, but from the potentiality of point A to the actuality of that very same point A, but in a new instant. If we were to use an analogy from physics, this is a similar kind of motion to that occurring in boiling water which is a contained movement, where particles are internally transformed. Each single pixel contains different levels of potentiality. As noted earlier, the actualisation of each pixel's potential is not (as in analogue film) directly related to the next or previous frame, but rather to invisible codes (similar to Deleuze's molecular, as the becoming, and molar, as that which is fixed and perceived). This is similar to the concept of the changing virtual or invisible mentioned in the previous section. It is an internal actualisation of the virtual: a point A that becomes more intense and singular as it actualises into a new point A at a different instance.

As an example of the becoming-pixel that is constantly actualising within itself, my video, *Through a Dot* (fig. 20), consists of three images of the pixel: the right-hand image shows the video frame as a whole, through which no individual pixels can be perceived; the middle image shows a single pixel masked out from the right image; and the left image is a magnification of the internal changes of a pixel. Here, potentiality constantly transforms into actuality within the same pixel. It then shifts back to a new potentiality, linking to a movement that was initially informed by an event external to the frame. A pixel is all – past, present and future. It is duration, *and* the present.⁸⁹ It is one.

⁸⁹ Similar to Sadrā, Deleuze, following Bergson, pursues a discussion on the image constantly divided between past and present (1989).

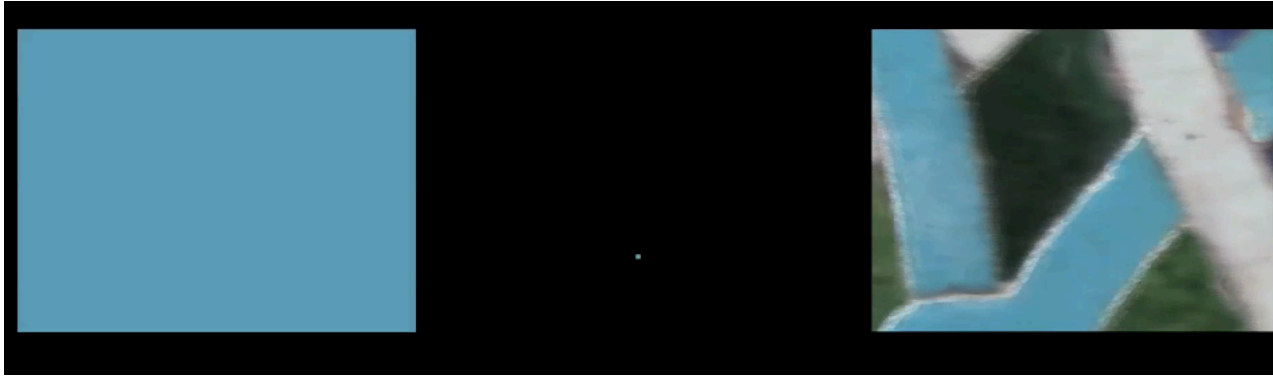


Figure 20. Through a Dot [Video: Author, 2013]

For Deleuze (1989), following Bergson, the present is the actual image, while the past is virtual, and the present needs to pass for the “new present” to become (p. 79). For Sadrā, duration as past and future is inseparable from the Divine present. Past and future, as linear or passing fragments of time, are grasped from the infinite present. This present is also a part of being in the process of becoming. Time is separated as passing, linear time (that, in Bergson's terms, splits the passing present and the preserved past into two distinct passages of time) only according to the nature of the connection of an entity with the divine present. Each entity, based on its being, experiences time differently. Internal time, as part of divine time, informs the temporal expression of an entity as linear time.

Extending this distinction between Sadrā's notion of Divine presence and the linear experience of time, we can think of the video *image* as existing in linear time, while the *pixel* relates to the Divine or a non-temporal source of transformation. In analogue film, time is mostly experienced as instances between frames, or intervals. By contrast, our perception of time in digital video results from the coexistence of different times within the same frame: each pixel on a screen undergoes certain internal changes. The rate of change depends on the digital codes that link the frame to an outside subject matter. Each changing pixel, with its own time, provides a single experience of time through the image as a whole. Returning to Deleuze, in terms of pixels we experience the movement of time in digital video (as distinct from time and movement considered to be separate) neither as an “indirect representation”, nor based on an understanding of the frame as a unit, but as an indivisible block of time (1989, pp. 35-36). This is more truthful to the reality of existence where beings change through their substances. From Sadrā's perspective

“time does not let us remain ourselves” (Jambet, 2006, p. 217), neither does time let a pixel remain itself. Through the interruptive nature of constant change, a temporal life is burst open. Time is formed by life itself: not as external, but as a “consequence of the intensity of our substantial motion” (p. 217). Rather than being “in time”, time is part of our ontological existence as part of the Divine. It is tempting to conflate Sadrā and Deleuze, but one should keep in mind the limits of the comparison. For Sadrā, the experience of time is always in relation to the Divine presence.

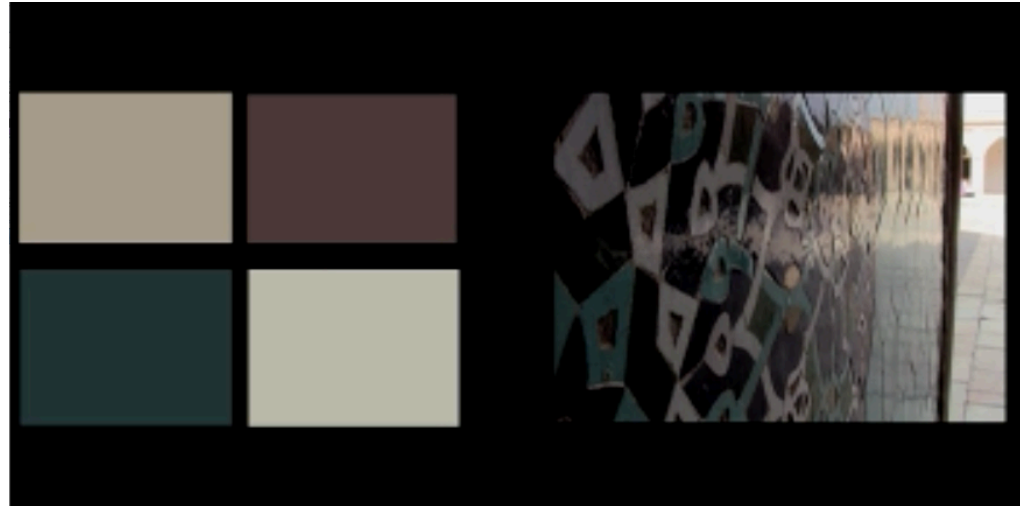


Figure 21. Lighted Tiles [Video: Author, 2013]

The *Lighted Tiles* video (fig. 21) demonstrates that our perception of continuous movement as a whole is formed by a collection of events taking place inside the frame and between pixels. Four pixels, taken from different parts of the video on the right, show diverse kinds of motion within the existing frame. Each pixel undergoes different processes of change depending on changes outside the frame. Their individual rates of change differ from the time and motion that is perceived through the frame as a whole. In this holistic form, a collective change occurs that produces a perception of unified movement. The intensification of parts determines the intensification of the whole. In this respect, all beings inside and outside of the frame contribute to the becoming of a whole. An interconnected system enables more of an invisible to become visible, and more of the virtual to actualise. The pixel is related to all other entities in a mutual process of

change through this concept of internal motion. In this sub-set of digital video, pixels are held together by motion and duration and their collective change forms our perception of movement and figuration.



Figure 22. Pink Dot [Still from video: Takeshi Murata, 2007]

Takeshi Murata's video *Pink Dot* (2007) is an example of a work that utilises the materiality of the digital video to orchestrate change through digital media. The change and manipulation of an already existing moving image (*Rambo*, 1982) using image-processing software, causes monstrous shapes to continuously morph on the screen. The movement and change of each individual pixel is tracked through the time of the initial film.

The result is a flood of digital moving mud on the screen, constantly decaying and absorbing the scenes from the movie. A pink dot in the middle of the screen continuously flashes in and out of the screen, forming new layers of time and change. This video of becoming-pixels challenges our normal perception by constantly moving between forms that try to come into being, but collapse over and over again before they can fully come to be (Marks, 2010b).⁹⁰

The idea of becoming-pixels is not only limited to the pixels that structure the video image, it can also be extended to the molar level of the image. Here, Deleuze's notion of sub-sets (internal elements to the frame such as actors, narrative, etc.) informs the image or the frame. Each sub-set, here, can be considered as a becoming-pixel. A digital moving image with pixels at the molecular level, also has pixels at the molar level; not video pixels, but pixels as minimal units, or sub-sets, such as scene and narrative (cf, p. 86). In the case of Kiarostami's films, such as *Taste of Cherry* (Ta'm-e gilās) (1997), we can think of individuals (actors and participants) as pixels that form layers of change by contributing their own personal stories and influences to the narrative and film as a whole. Different pixels can be formed in a way that directs our attention to different experiences of time. The application of these units individually as well as in relation to each other

⁹⁰ See *Electronic Arts Intermix* (*Electronic Arts Intermix*, 2014).

can form different layers of meaning and experience that in turn can be unfolded differently through an individual's experience of the film. One example of layers of meanings formed by different units of a film is the movie *The White Meadows* by Mohammad Rasoulof (2009), where the plot is organised around seven islands hosting different events, people and stories. These islands are separated from each other and access to them can only be achieved through a man who sails his boat in the channels between. The meaning of the overall image is open to interpretation as a consequence of different layers of meaning providing different levels of experience.

The more internal motion present within an entity, the more singular an entity becomes as a whole, or *one*. This *one* is constantly changing through the act of being. It only *appears* to our abstracting minds as a stable whole that is distinct from other entities. According to the theory of Substantial Motion, each of us is “a multiplicity of continuous forms, unified by the essential movement itself” (Jambet, 2006, p. 200). Using an analogy, the particular qualities of liquid water or solid ice are due to molecular and atomic movements. These movements of particles generally give water and ice a certain stability, which in turn provides an identifiable form. For Sadrā, the unity of an entity is not dependent on its stability, but rather on its integrated multiplicity at the substantial level, achieved through the process of becoming. “The simple is prior to the composite, the part to the whole” (p. 119). This process of becoming-substance involves a multiplicity of continuous forms.⁹¹ Change, at a substantial, molecular level, is the process of actualisation resulting in a form to which we attribute quiddity, to “allow for the identification of specific entities” (S. H. Rizvi, 2009, p.128).⁹²

To make an analogy between *apparent* wholeness, and the unity of things that are due to changing internal parts, I suggest that the still frame of analogue film may not be the *one image* to which Rodowick and other film theorists refer. Rather, it is *one* only in our perception. The image's perceived stability is an abstraction, given that its pixels and their underlying codes are always in a process of change and renewal.

⁹¹ “Nature, therefore, is stable. But its stability is nothing other than the permanence of its renewal, of the duration that constitutes it” (Jambet, 2006, p. 205).

⁹² This attribution disregards the underlying process of formation and reformation, in which motion gives form and un-forms both the whole and its parts. This metamorphosing process is missed when the mind assigns actual and stable form to the whole. “[T]he body is stable from the point of view of quiddity” otherwise it is constantly “renewing itself in existence, and its ipseity is in flux” (Jambet, 2006, p. 199).

Motion connects all pixels into a whole in the form of a moving image. Here, pixels expand and condense, form and de-form, moving between different states of intensity that are induced by the numbers of the code. The image as a stable representation is produced by what Deleuze calls the “sensory-motor schema” ((Deleuze, 1989, p. 21), see p. 76, above). Images in the “sensory motor schema” lack intensity and they tend towards clichés, or Sadrian abstraction (c.f. p. 76). Seen from the perspective of Substantial Motion, digital video has the potential to render the reality of existence more truthfully because its pixels, as a unified internal multiplicity, are changing and moving in infinite time as well as forming a perceptual unit of moving image.

As previously noted (following Deleuze), although the image can be molar, it is also built on the molecular levels of pixels (becoming). The former concerns representation or figuration, while the latter lacks figuration. In the plane of immanence that is “entirely made up of light” (1989, p. 60), there are no rigid “bodies” or “lines”, but only figures of light (p. 60). Matter is a mass in flux with a molecular motion. Matter at the molecular level is made up of light and moving particles. The limited and fixed human point of view distorts this constant movement. In the Sadrian view, stability and form arise from motion (becoming, for Deleuze). Rather than many unmoved single frames appearing and disappearing to create a moving image (as with analogue film), with digital video there is only *one* image moving and changing as a whole. These changes are due to the internal elements of the digital image. They occur in relation to the outside insofar as the code that is informed by the external filmed object moves and changes the related elements of the digital frame. Like people, pixels have “a destination that recapitulates all the destinations of the universe” (Jambet, 2006, p. 198). As microcosms, they envelop “the seminal reasons of the macrocosm”, and their “substantial renewal both fulfils and encapsulates the renewal of all natures and all souls” (p. 198).

Murata's *Pink Dot* demonstrates this process of actualisation. It uses the changing qualities of pixels to create metamorphosing forms that are constantly transforming inside the video image. Using and manipulating the images and codes of Hollywood movies, the images in *Pink Dot* can be seen to restlessly move between poles of form and formlessness. Although lacking recognisable form, they never fully become formless. Working pixels become visible and try to provide shape in a way that recalls Deleuze's *crystal image*. This is the state in which the image as a recognisable form is forming, but is not yet fully formed. The actual and the virtual thus become indistinguishable through this process of formation (1989,

p. 69).⁹³ For Sadrā, this would be substantial change, where Perception becomes more vast and new points of view are given shape.

4.5 Pixel as an eye - perception and experience

Perception connects the soul and the body. Then, through perception, certain material aspects of an entity are transformed into information, which are accessed by the soul, and therefore by the mind. The camera follows a similar process, sampling information from the recorded object and simplifying it into a form of data that makes it accessible as a digital image. Through algorithms and constant change, the pixel also enables matter to become perceivable through the image.

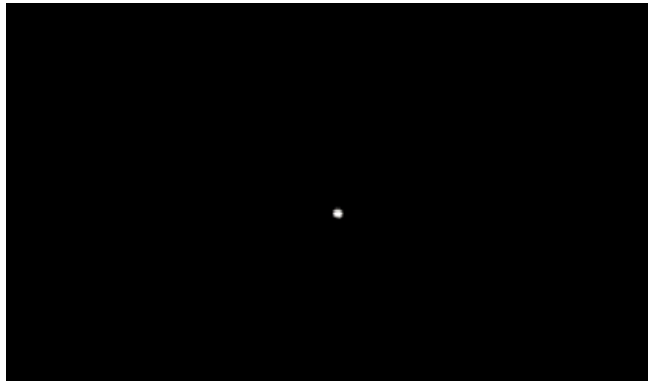


Figure 23. A pixel from the video "Through a Dot" [Video: Author, 2013]

According to Sadrā, for whom existence is all-important, all entities or beings have experiences and perceptions of the universe and the divine. Moving images and pixels are entities with their own qualities, and both they and their filmed object/subjects are in the world and part of the process of change (Cubitt,

⁹³ Appearing and disappearing pixels allude to the continuous movement of the frame as a whole. When our perception of changing frames (collected pixels) is interrupted, our experience of movement is troubled. This interruption encourages ambiguity and a movement from a representational to a sensational experience of the image. If pixels collectively refuse to appear and disappear, then, using Deleuze's term, an expanded "interval" between the movement image and perceived image becomes a new point of becoming.

2004, P. 19).⁹⁴ As a living, singular being undergoing change, a moving image is differentiated from other beings to which it is connected, including the subject of the video. From both Sadrian and Deleuzian perspectives, moving images and pixels are real because they exist.⁹⁵ What matters is not their materiality, but their being. “Existence is a concrete reality that is simple and unique and there is no distinction among its individuals essentially except by perfection and imperfection and intensity and debilitation” (Sadrā in Leaman, 2013, p.34). Sadrā’s conception of being as constituting more than materiality is consistent with Deleuze’s understanding of existence as becoming, as everything on the plane of immanence in flux. It is only through human perception that entities become rigid. For example, Deleuze follows Bergson in putting into question the difference between light and matter. Positing an “identity of matter and light” (1989, p.60), he goes even further: the human eye, perception, is not essential for Appearing to take place: “the eye is in things, in luminous images in themselves” (p. 60). Thinking of the moving image and the pixel as beings assists us to think about *their* perception and experiences of the universe. If there are not only many points of view other than the human, then how does the universe appear from a pixel’s point-of-view?

For individuals to experience other beings and entities, their perception has to transmit information from those entities which can then be accessed by the soul. “Perception is only a preparatory stage which provides the occasion for the soul to create a form of the perceptible object” (Moris, 2003, p. 100). Sadrā argues that sense perception belongs to the realm of the soul and not to the category of “material objects” (Yazdī, 1992, p.40). However, sense perception does have the facility to create a form (e.g., an image) from a perceived object (Yazdī, 1992, p.40; Moris, 2003, p.100). Though perception cannot grasp the whole reality of an entity’s existence, it can identify certain aspects. Like a filter, it simplifies the object and then transforms it into an immaterial format that can be accessed by the soul, and then by the mind. In effect, this is an abstraction of the initial raw experience into a known fact. In this process, two different entities,

⁹⁴ See also Sobchack (1991, pp. 164-168) and Cubitt (2004, p. 19). Despite the differences between phenomenological and Deleuzian approaches, Sobchack’s view of the perceiving camera is similar to Cubitt and Deleuze insofar as a film can perceive differently from a human.

⁹⁵ There is no need to critique cinema’s supposed non-reality. Similar to Deleuze and other recent approaches that regard cinema as just as real as the rest of the world of which it is part, this study considers moving image as real. Therefore, Sadrā’s approach supports the contemporary view that moving image is not just as a representation of reality.

material (matter) and immaterial (soul), are connected through perception. This connection also enables the transmission of information between the invisible and visible realms.

In a similar vein, during the process of digital moving image sampling, the captured object is transformed into codes by the camera pixels within the frame. That is, the intensity of the light reflected by the object is measured by individual pixels and the results are stored as data in the memory. As the simplest element connected to the invisible realm of algorithms, a camera pixel turns aspects of an object or event into formless states and simplified formats. At the other end of the process, the screen pixel transmits the codes that represent an element of an object outside the video camera into a form of coloured light. Thus, during the process of transmission the perceived object has to lose certain qualities in order for it to be accessible.

As Sadrā argues, experience is not limited to bodily senses because there are also senses “internal to the soul” (Jambet, 2006, p. 244) that are related to the invisible realm. *Idrak*, meaning perception, considers experience by both external and internal senses (see *Dictionary of Islamic philosophical terms*, 2001).⁹⁶ This suggests that non-organic beings have both a material experience (comparable to sense perception) and an experience through substantial motion. That is, non-organic beings can experience the cosmos through their substance that is linked to the Divine and the whole universe. At a substantial level, minimal parts are intensely connected to the Divine and can experience the Divine act of being. From a different angle, but similar to Sadrā, Deleuze argues that there is perception at the molecular level where “an atom ... perceives infinitely more than we do and, at the limit perceives the whole universe” (1986, p.64). However, returning to Sadrā, even if a stone or a pixel has an intense experience of the universe at the level of its substance, the spectrum of its experience is limited in terms of its relation to the Divine being and His reality. The field of perception that is available depends on how advanced a being is. The more change and intensification, the wider the field of perception that becomes available, and the more of the invisible becomes visible. Experience is also unique to the qualities of a perceiver. A pixel has certain experiences of the universe that are prompted by its qualities as a being, like its place on the grid and its intensity of light.⁹⁷

⁹⁶ The internal senses are a concept that goes way back to Islamic and Greek philosophy – memory, estimation, imagination, etc.

⁹⁷ That the point of view is something that changes with the changing being and its changing perception would also be supported by Leibniz’s notion of a *clear zone*, which is the area where the universe can be clearly by otherwise only partially perceiving entities. However, while for Sadrā all beings are changing and intensifying, a Leibnizian monad occupies a single position in the universe, and this

Sadrā's notion that entities in the hierarchy of beings can change their place according to their development (see pp. 68 f), suggests that pixels, despite their apparent fixity, also change their position in the hierarchy relative to all other things. Through this change, their experiences of the universe and their points of view also expand. A pixel on the pixel-grid holds different sequential instances of information that pass through the whole frame. In each second, 25 frames pass through the pixel grid (1,500 frames per minute) and while, in this process, the grid of pixels appears the same, its contents are constantly changing. A pixel contains a part of the entirety of a movie. For each movie or image it supports, it holds and experiences all information in one small spot. Over its life span, each pixel in the screen or a video undergoes certain changes in response to the information that it channels, so that a pixel with more experience of data should be a different entity to other pixels on the grid that have less experience. Pixels on the same grid may or may not experience the same amount of new information, depending on the compression algorithm, which may leave some pixels unchanged. When a part of the filmed subject is unchanged, the relative sensors do not sample any codes and the digital image is compressed to contain less information. Certainly, pixels in different grids have entirely different experiences because of their change that is in accordance to what the outside world is to the frame.

Even though a pixel may have a limited point-of-view of the universe, through the process of perceiving and revealing it contributes to the whole of a moving image. The pixel poses its point-of-view on existence from the edge of two worlds (visible and invisible) that are constantly in motion. Part of its experience of existence is alive as a flickering light that comes and goes. What a pixel comes into contact with outside of the frame, like the objects the moving image represents, determines the accidents that befall it and thereby the colours, forms, and shapes of the image.⁹⁸ Experimental analogue films by Paul Sharits, such as *N:O:T:H:I:N:G* (1968), show flickering coloured lights which are analogous to a pixel's experience of the world. Every frame is a different colour and the overall experience is of a burst of many colours on the screen. *N:O:T: H:I:N:G* thus resembles a single pixel that is constantly changing colour and perceiving the

position is fixed. A monad's single position in the world determines its clear zone and what it perceives (Deleuze, 1993). We can think similarly about pixels and their fixed places on the pixel grid; they never change place; a stone or a pixel has a certain view of the whole according to their position.

⁹⁸ This multiplicity in a changing whole governs the accidental changes that occur to an entity as an individuated whole (such as growing, or movement in space). An accident that befalls quiddity of matter, such as colour and form, "has no existence independent of substance" (Sadra's view discussed in Akbarian, 2007, p. 79).

universe as if in constant shock. Another analogy can be made between coloured pixels and monochromatic architectural tiles in Islamic mosques. When put together, the tiles create a bigger surface. Each tile, as a fragment, brings an aspect of divinity into the present by contributing to an experience of the whole of the dome (Barry, 1996, p. 33).⁹⁹ Pixels, even as they appear isolated and disconnected within a grid, capture a fragment of the filmed object, and through internal motion are able to contribute to an experience of the whole image. For example, while I was filming the tiles of the Friday Mosque in Yazd, each pixel of my camera was able to experience the tiles. As a fragment of colour, each tile was captured by

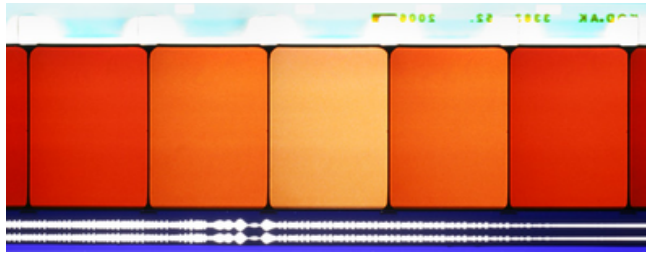


Figure 24. N:O:T:I:NG [Film: Paul Sharits, 1968, Still from Film-Anthology Film Archive]

a fragmented colour pixel. Although my own experience was concerned more with an awareness of the whole, a pixel (closer to shock¹⁰⁰ than to meaning) is able to focus on a smaller area with more intensity and is affected more severely by movement. For all of its lack of figuration, a pixel thus gives a more intense sense of time and motion.

In the overall image, the experience of contact between a pixel and an event is not easily perceptible, yet it is indexed within it. Materiality is not the only condition for indexicality. More important is the index's ability to direct attention to something, like a pointing finger, that designates rather than describes something ("The index asserts nothing; it only says 'There!'" (Peirce, 1885, p. 181)). Here, the pixel directs our attention to aspects of an outside event. Each pixel, like Cubitt's frame, has a link to a fragment of a filmed object that reveals an aspect from its reality that is beyond the apparent image. Small fragments of the event are manifested through pixels at every instant.

Our perception of the existence to which we belong is also fragmentary. Metaphorically speaking, each one of us exists alongside all other entities as pixels contributing to a bigger image, which is the universe that,

⁹⁹ This refers only to a certain method of tile-making, known as *haft rang* (seven colours) where every single tile is made individually, see Barry (1996) for more details.

¹⁰⁰ Or affect, in Deleuzian terms.

for Bergson, is a “metacinema” (Deleuze, 1986, p. 59). Even through fragmentation each pixel shows aspects of the invisible realm, and it is constantly being refreshed through the Divine act of being.



Figure 25. Mobile video by Zaid (2012)

A video taken by a Kurdish refugee to capture his circumstances, at a time when his life was threatened, does not seem to show much in the way of images. In an intuitive act, Zaid (not his real name) used the medium only to capture his circumstances. It was not an intellectual attempt to make an art statement. The outcome was a 40-second low-resolution video with harsh noise, that he gave to me. The barely identifiable content of the image does not represent his experience, yet it is indexed within the image.

The video was made at a time when Zaid had lost all hope for his survival. Hidden under an ordinary truck crossing borders between Turkey and Italy, he had been lying on a three-centimetre thick metal frame, while holding onto the metal structure above. This was for 58 hours, without much movement, and without food and water. He decided to record himself underneath the truck in an attempt to leave a message for his family should they find his body. Luckily, after 40 seconds of recording, a friend’s phone call restored his hope for survival. Even though the pixels do not represent the condition, they were witnessing: they indexed the event. The video, with forms that are neither fully formed nor formless, and pixels that work hard to direct our attention to the situation, provides an experience that needs to be intuitively grasped. "Zaid"’s experience is a metaphor for the pixel's experience of interconnectivity. A pixel’s connection to the universe, and an individual’s connection to society, adds to the significance of this piece of mobile phone footage.

The mirrored *muqarnas*, such as the ceiling over the entrance to the Chehel Sotoon (Forty Columns) Palace (fig. 26), is a metaphor for an interconnected system that includes us. Consisting of fragmented mirrors (*muqarnas*) in a complex concave and convex structure, the ceiling reflects fragments of people in the surrounding space. It reflects not only what is located beneath it, but also what is in the far distance. As the surrounding elements move and change, the interconnected mirror images respond; if one moves in the distance, the surrounding mirror images change as if the whole were moving. As a person enters the zone under the eye of the system, s/he becomes a part of it and thus has the potential to affect the whole.



Figure 26. Chehel Sotun (Forty Columns Palace) [Still from Video: Author, 2012]





5 In search of a magic lantern (Practice)

In the classical Eastern tale of *Thousand and One Nights*, Aladdin finds a magic lantern. This lantern is not only a light source but a house to a *jinn* (in Arabic, 'hidden from the eyes'). In the story, the giant *jinn* has been living inside the small lantern for many years. By rubbing the lantern, Aladdin frees the *jinn* who, despite its immense size, keeps on inflating out of and deflating back into the lantern as Aladdin wishes.

The paradox of a very small container containing an enormous creature is not limited to myths. Influenced by Neo-Platonism, some Islamic thinkers (such as Sufis and Sadrā) believed that a whole could be found in its minimal parts. For the mystic, the whole is seen in a fragment: a tiny part encompasses the gigantic cosmos, like a drop of water holding the sea. Thus, the smallest part has the potential to connect the mystic to what is beyond physical perception, when s/he wishes to experience *fana'* or disappearance in God. Through *Fana'*, a mystic disappears into the Divine and returns to the origin and the source of creation (S.H. Nasr, 1987, p. 167). For Sadrā, however, movement and change connect entities to each other and God, not *Fana'*. For him, all creatures belong to interconnected levels of existence. Parts are distinguished from each other according to their position. Yet, although the parts appear separated due to their level of intensity, a single force of existence unites them all. One can connect to an entity and discover its internal world by engaging in its changing existence, which could also connect one back to its origin. But first one needs to reveal the part and discover ways to engage in its transformations (cf, pp. 66 f).

Each time we engage with digital media, we release a giant entity, like Aladdin. It was with the hope of discovering the *jinn*, the invisible, inside already existing video footage that my practice began. This invisible, technically speaking, is an infinite amount of information. Carrying a vast collection of information packed in, for instance, memory sticks, hard drives, or mobile phones, is a common act. Each time we activate a data source, we unfold information and connect to a dispersed collection of stored and concealed data. But turning on and using the data is only the first step to freeing the creature inside the

digital medium: there are still magic lanterns inside the digital medium that are not yet revealed (Marks, 2010a, 253-288).

This chapter interweaves concepts and ideas (such as invisibility and change) derived from Sadrā's theory of Substantial Motion with the practice of digital video (at the level of the image as well as that of pixels). The aim is to use one to shed light onto the other. I use internal and external motion to unfold the inner space of the digital medium in relation to the interconnected universe (as argued by Sadrā, see pp. 66 ff, above). It explores spaces beyond the perceived image, in which small magic lanterns contain expansive and invisible data. In this chapter, I discuss and examine a selection of the digital works I explored in the course of this research project. Through these works, and the processes involving their production, I tested the relationship and application of Substantial Motion and digital video.

5.1 Standing on the edge

This section explains my position as a video maker in relation to the medium and the world (in a recorded event). This position is not fixed, and it involves internal and external motions – inside and outside of an image. In a constant movement of inside-and-out, back-and-forth, connections are made between me (video maker), the video (the pixel and the image), and the world (the filmed object/events).

In the process of filming, I place myself inside the world of the frame – not physically, but through the decision-making process. I am present and become part of a Deleuzian set (see p. 86, above), even though my presence is not manifest in the resulting video. The frame is inside the bigger world, the outside-of-the-frame. In the process of filming, the outside world feeds into the video, to a point where the outside becomes the inside; inside and outside invert. Framing with the video camera, I realised in my practice that I am poised on the edge of inside and outside, on the changing boundary that is in process of inverting. As the boundary changes between frame, pixel and outside, I take part in the transition: my place also moves between inside and outside. The edge is the boundary between the world and the digital frame.¹⁰¹ As a

¹⁰¹ The relationship of that edge condition with Cubitt's analogue frame line (see p. 91, above) might be worth exploring but is beyond the scope of this thesis.

boundary, the frame holds the world of the video together while separating it from the outside. On this boundary, there is potential to explore various creative possibilities.

My practice concerns observing, as much as participating in, the movement between inside and outside, to discover possibilities that lie unnoticed within the inside world of the frame. Part of this movement between inside and outside, by way of metaphor and actual practice, concerned Iran, the place of my birth and the country in which I generated all video for this thesis. Moving with the frame, I change perception: moving in and out, different avenues open up to my practice, and diverse experiences shape my research, producing different points of view.

5.2 On the outside: looking back (from a great distance)

Waiting is the outward leg of the journey from the place of one's birth, outside of oneself, seeking that which the place already contained, and which will permit a return ... The most proper calls man out of himself, out of the place of his birth. (Bompiani quoted in Düttmann, 2000, p. 113)

In 2010, my search for 'a new way of seeing' was officially initiated as a PhD research project. To explore new ways of seeing through moving image practice, I initially considered minimal parts in social contexts, and later in digital media. Initially, I was drawn toward the library of video materials that I filmed in Iran during 2008. Going back to the hard drive, I found myself faced with hours and hours of video footage. The hard drive was a precious box that kept the collected data 'samples' of time and space from *their* place of birth. Reviewing the material after a long time and at a great physical distance from the country I no longer fully knew but felt connected with, my experience of time and space was agonising. It was no longer continuous but split into contradictory parts, in the midst of which I felt I was being changed: "time cracks, space changes, the trappings of identity are removed and replaced. She crosses, migrates, loses and remakes" (Byrne, 2009, p. 30). The old footage, brought into my present in New Zealand, revealed an experience of time that is not visible in the videos themselves.

Two examples of my unpacking of materials recorded in Iran are discussed here in relation to concepts of time, motion and stillness. With attention focused on the potential within the material, I extracted different images and formed new relations between elements of a moving image (i.e., the frame and the unit of time). Looking at a video over and over again, new moments and relations arose from the same sequence. A small selection of video became a new series of possibilities. Observing the images and my connection to them with fresh eyes, I saw moments within videos that had gone unnoticed. New relations, concepts and readings emerged between my gaze and the screen. The video was no longer simply replaying the past, it was forming anew in each instant. It seemed as if taking footage away from its place of origin gave it a new significance and a disjointed quality of time and place. While I was placed outside the frame (a screen, a video, a country) looking in, the videos were forming new meanings and possibilities for further explorations. At this stage, I was moving on the surface of my images, and trying to find ways of moving beyond what I perceived.

The Gaze and *No Man's Land* are significant because their production changed my thinking on the invisible (cf. pp. 94 ff) and brought my attention to conceptual contexts like the gaze. Further, they document my initial approach to working with the minimal part of digital video, which at this stage was the frame.

The Gaze (2010)

The most successful of my experiments concerning finding new potential in an image was *The Gaze*. The video, shot in the main bazaar in Teheran, Iran, shows a man pulling a trolley, gazing into the camera as he passes. Only a few seconds of footage were selected from the video footage and these were split into a series of consecutive stills which stayed on the screen for one second each. The video's frame-to-frame movement (the jump-cut gaps between frames) disrupts the smooth flow of time. Viewers are confronted with the stranger's returned gaze, intensified as his body struggles to move forward. Thus, viewers in Western contexts are confronted with a stranger in the unfamiliar surroundings of an Iranian bazaar and experience a disjointed time-and-motion struggling to come into being.¹⁰² However, representational

¹⁰² While I was not aware of it at the time of making, the piece has affinities with the Islamic Atomists' theory on disconnected entities, as well as (what Laura Marks [2010] identifies as) the atomist aesthetic of works like Martin Arnold's *Pièce Touchée* (1989), in which the flickering and frame-to-frame movement upsets conventional perceptions of time and motion.

elements within the frame that are utterly different create a secure distance for viewers. This separates them from the frame's content; they remain outsiders, with a privileged position from which safely to look *at* the man, even as they are confronted by *his* gaze.



Figure 27. *The Gaze* [Video: Author, 2010]

As explained in the methodology chapter, I took an observational documentary approach for collecting my visual material; that is, I tried not to influence events occurring in front of the camera. Hence, what the camera captures is an accident or potential that forms an event or situation within the frame. The man and I crossed each other's paths at a certain, arbitrary time in a place where I happened to be, and the camera recorded this moment of coming together. When, after a long interval, I returned to the original recording of this video, the gap between the recording and my reviewing of the image influenced and prompted a particular understanding and reading of the image.¹⁰³ The time gap, and many other factors that I am not even conscious of, informed the selection of the video *The Gaze* and its formation through unfolding toward certain directions. A year later, I revisited the footage again. This time, the incompatibility of the video with my computer software initiated a flickering visual quality, as a result of a failure to properly read the file. I decided to embed the resulting aesthetic further into the video. This process can be considered as the actualisation of a virtual potential of the primary footage, which was carried on from the very first

¹⁰³ This scenario could be considered through the notion of virtual and actual: all the other possibilities that could have actualised into an image, with all the subsequent editing and reviewing, did not actualise.

moment of recording *The Gaze* (or even before). Every time one moment actualised, its virtuality continued to change invisibly, and kept on changing until actualised again.

In hindsight, I was experimenting in *The Gaze* with what Bergson called “cinematographic illusion”, or false movement (see Deleuze, 1986, p. 1). In the context of analogue cinema, this term refers to the perception of movement created by the succession of individual frames changing at 25 frames per second.¹⁰⁴ Literally in analogue, metaphorically in digital moving image, still sections are made to move by a mechanism ‘inside’ the apparatus – in the first case by the traction in the film gate and in the latter by code. In subsequent trials, I continued to work with illusions of movement and time, in a series of videos in which the still frames each lasted for five seconds – they appeared at first like still images. Out of these trials, questions arose of how we experience stillness while being exposed to motion. Does motion exist within what seems static? How does a relation between stillness and motion create or bring about an experience of change?

The most successful of these experiments explored the experience of motion-stillness-motion (fig. 28, shows still images from a collection of videos). A digital moving image lasting 60 seconds normally has 1500 frames. Exporting video footage as a series of still images (each lasting for five seconds) at 11 frames/second (instead of 25 frames/second), a one-minute video came to last 33 minutes. The moving image doesn’t appear as a moving image at first, yet there are subtle changes of figures-in-frames. They invite the viewer to spend time looking: to become aware of a fragmented time-in-frame that is different from our usual experience of time.

¹⁰⁴ In PAL, 25 frames per second as the frame rate (24 frames for NTSC video format) are commonly used to create a perception of smooth movement.



Figure 28. Bazar of Tehran [Stills from series of video: Author, 2010]

These trials were the beginning of my thinking on the dis/connection of digital frame and the outside world. When I came across film theorists like Cubitt and Rodowick later, they informed my further investigation involving pixels. These early experiments also raised some questions concerning the minimal part of digital video in relation to its materiality.

No man's land (Exhibition-2010)

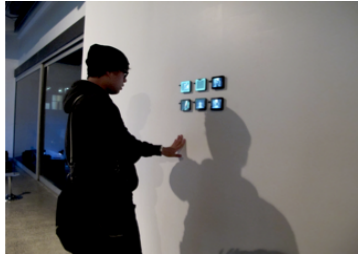
The frame-to-frame relationship (or stillness and motion in relation to the outside of the frame) was tested publicly in an exhibition "Live, Repeat, Playback". The Persian poem "Bani Adam" by Sa'di (1258) became a platform from which to express the interconnection of units (frames/individuals), time and movement, and to employ film/installation to test the relations between spectators and frame.

Human beings are members of a whole,
In creation of one essence and soul.
If one member is afflicted with pain,
Other members uneasy will remain.
If you've no sympathy for human pain,
The name of human you cannot retain

(Sa'di Shirazi (1258) , translated by M. Aryanpoor)

بنی آدم اعضاء یکدیگرند
که در آفرینش ز یک گوهرند
چو عضوی به درد آورد روزگار
دگر عضوها را نماند قرار
تو کز محنت دیگران بی غمی
نشاید که نامت نهند آدمی

The *Communities of Bodies/Frames - No Man's Land* (2010) involved the configuration of six digital photo frames. Each, as an entity or cell, displayed an individual in Iran who happened to enter the frame while I was recording. The use of footage collected and produced at different sites and times created a collection of moments and movements between frames, as well as between frames and spectators. The tile of images explored notions of 'unit' and 'unity', where individuals are members of the same body, created by and connected to a single essence. Although the content of each cell appeared separately, their relative location affected the viewers' perceptions as a whole. The exhibition brought my attention to how the world inside a frame is part of and conditioned by the outside. The fact that all cells affected each other perceptually raises a question: are apparently disconnected units perhaps interconnected?



Considering the point-of-view arising on the boundary of inside and outside, I realised the difficulty of engaging a viewer at a more molecular level (see Conley in Parr, 2005, pp. 171-172) (cf, p. 5), that is, in interactive, open, dynamic and dispersed ways that can draw them experientially into the frame (as opposed to staying outside, looking at the display of a space and subject). This is when I began to wonder how viewers can experience the inside of the frame as a work of becoming, which is an open frame carrying a message.



Figure 29. Community of Bodies/Frames. No man's land
[Exhibition: Author, 2010, St Paul Gallery, Auckland-New Zealand]

5.3 Moving back and forth (across time and spaces)

In 2011, I revisited Iran. Attempting to further focus my research, I physically moved back to the place where my recorded images and Sadrā's philosophy were formed – to Iran and cities such as Yazd, Isfahan and Ardestan (cf, pp. 40 f). In this move back, concepts such as minimal part in social context came to the surface. During the first return to Iran after beginning the research, I aimed to gather more focused visual and textual materials. I studied the history of Iranian art from figurative, pre-Islamic art to Islamic abstraction. This study, as an early attempt to find creative approaches between figurative and nonfigurative elements, was important in helping me to grasp the movement between non-figuration and figuration, and the sensuous connection with viewers, which can be seen, for example, in the architecture of mosques.

Shifts from figuration or non-figuration in the Sassanian era (224 to 651 CE), just before the arrival of Islam and during the early Islamic period, had already interested me previously as a potential precedent for

creative strategies in my own work; now it took on an additional layer, as I explored ways of operating within the limitations in both Western and Middle Eastern ways of using images in political contexts. Works that contain very subtle messages would avoid inviting stereotyped readings. The potential of Islamic abstraction became a guide and driving force, as did the way it ambiguously links to its Divine source of origin.

I also engaged in both theoretical and visual explorations of this topic to better understand the artistic modes of transition from the pre-Islamic to the Islamic era, for instance, pre-Islamic and Islamic Sassanian art. My interest was drawn to the use of patterns and figures that, using the same design and the same level of detail, appeared across different media: from coins, to metal bowls, to concrete walls (Ettinghausen, 1972 ; Vesta & Stewart, 2008). This, it seemed to me, had an affinity with the ways in which, in contemporary digital media, the same image can be used on a mobile phone, a TV screen, or in a large projection. This suggested that formal elements, such as scale, detail, symmetry and repetition, which are universally important in Islamic art, might be able to contribute to my own work. Another connection arose from the fact that early Islamic artists found their inspiration in every existing entity. Islamic worldviews connect individuals to the cosmos.¹⁰⁵ Everyone in his or her daily life could be inspired by this view; everything was potentially art, from the sky to a bowl, from a garden to a dome. Translated to my research, this meant that society is inherently connected to visual and non-visual matter, both equally important. Therefore, it was not the concrete subject matter that was crucial: if I was unable to record something with a camera, I was able to record it through my experience; if I was not able to use a tripod in public sites, I could locate the camera on the ground.

¹⁰⁵ However, it was God who was central to the creation of the universe or the purpose of art – not man.



Figure 30. Sassanian plate and coins [Photo: Author, 2011, National Museum, Tehran-Iran]

In the later Sassanian era (651 CE), patterns in architecture became more abstract and flattened, and more attention was given to repetition (Ettinghausen, 1972). The symmetrical quality of forms and patterns harmonised around a centre, the unifying element in Islamic art from which all units unfold and by which they are held together (Ardalan & Bakhtiar, 1973). These qualities can be seen in the Jameh Mosque of Ardestan (11th century), which combines elements of the early and later Islamic Sassanian era. Similarly, the Mehrab of Nayin Mosque (10th century) in the city of Nayeen is an interesting combination of pre-Islamic and Islamic patterns. The top section of the Mehrab shows the influence of Islam, while patterns in the lower section are highly influenced by Sassanian art (see Dimand, 1938).



Figure 31. Left: Mihrab from Naveen Mosque (10th century) [Photo: Author, 2011]



Figure 32. Right above: patterns from Jameh Mosque (11th Century) [Photo: Author, 2011, Ardestan-Iran]



Figure 33. Right below: patterns from Naveen Mosque (10th century) [Photo: Author, 2011, Naveen-Iran]



Figure 34. Dome of Jameh Mosque (11th century) [Photo: Author, 2011, Ardestan-Iran]

Turning dome (2011)

In the dome of the Friday mosque in Yazd (14th century), the relations of forms, lines and repetition become ever more complex and intense towards the centre (Akkach, 2012, p. 79). An experience of the dome is not only influenced by the complexity of patterns, though, but also by spatial elements such as light and shadows, and the openness of the structure to air and light over time. They not only create different experiential layers (see Grabar, 1990),¹⁰⁶ they also endow an observer with “considerable freedom” to find their own direction. They “can choose the point of view” they wish to enjoy, they can lose themselves “in the contemplation of details, in a count of thematic units”, they can “pick a single motif and follow it ... or examine its variations” in different places. They can “search for compositional patterns or for effects of light and shades. It is as though a richly orchestrated symphony had been frozen in space” (Grabar, 1987, p. 189). In a similar way, a moving image is not just about what appears and disappears within the frame. Its experience is also about the materiality of the screen, the im/materiality of light, the interconnection of elements within a frame, the codes of information that are not seen – and, the place where filming takes place and the environment where a video is presented: all these inform my own experiences of movement and visual dazzlement (fig. 35). From there, they reflect back into my video making and editing practice.



Figure 35. Moving tiles: patterns of Friday Mosque [Video: Author, 2011, Yazd-Iran]

In recording the first video *Friday mosque; dazzling patterns* (2011, fig. 36), I held the camera close to my turning body, which physically heightened the movement that is otherwise perceived optically. In the second video *Moving tiles* (fig. 35), the editing process of layering the same image creates a double vision

¹⁰⁶ Regarding the underlying motivation of movement from apparent to hidden and vice versa, see Smirnov (2004).

that is already implicit in the patterns. These experiences raised my attention to the experience of virtual movement in the patterns.



Figure 36. Dazzling patterns: dome of Friday Mosque [Video: Author, 2011]

Living Mosque (2011)

At the time of these explorations, and during my study of ancient Islamic philosophy, I discovered Sadrā's theory of Substantial Motion. After experiencing the dome of Friday Mosque, which is historically significant in Iran and still used for prayer, I could see the potential in Sadrā's theory in relation to both historical art forms and moving image art. Both involve movement and time. The video *Living Mosque* (2011) considers the Friday mosque of Yazd as a live fiction. It shows a small area of time-worn patterns and tiles which reflect (and are changed by) the movement of people responding to the *Azan* (call to prayer) and rushing to pray. The doubling and mirroring of patterns, people and time began to form their relations in movements between tiles, points, and lines: within a mosque, between and within people.

Reviewing my material, I realised that my use of the camera in public was problematic. In Iran, I employed the still camera or video camera with little attention to technical details. Placing the camera on the floor rather than the tripod, for instance, was a way to prevent attracting undue attention. My aim was to look at individuals as units of society and how their connections could create movement and change. Similar to the tiles and patterns of the Friday Mosque, each individual as a unit creates movement in contact with other units or points. Most videos from this period show calm, daily lives of people in their surroundings (they stem mainly from cities or towns where historical sites are located or religious ceremonies are held). However, what remains unseen in my footage is how these separate units generate movement when they come together, and thereby change. A metaphor for this invisible movement under the surface of society is a 'society of pixels' inside a frame – they are usually invisible but constantly in movement and undergoing change.

While reviewing the collected video material from Iran, I noticed a recurring aspect that was initially formed and encouraged by individuals who happened to come across the lens of my camera. This aspect was a moment where their gaze was captured in the camera. Although the individuals almost always were aware of the camera, they continued with their activity without allowing the presence of the camera or me to disturb them. They chose to be in the frame, and with this, in a certain way, they made a silent statement in their gaze back at the camera.



Figure 37. Living mosque: Friday Mosque as a live fiction [Video: Author, 2011]



Figure 38. Video documentation [Stills from video: Author, Yazd, Ardestan, Naveen-Iran, 2011]



Figure 39. Video documentation [Stills from Video, Ardestan, Nayeen-Iran, 2011]

In previous experiments, I was drawn to frames and segments of videos to attend to their narrative or character as minimal parts. I considered frames as small physical units of the video, in order to explore and discover avenues for overcoming the separation between the viewer and the frame (cf, p. 99). In this approach, a new way of seeing was explored by finding ways to challenge viewers' habitual perception and experience of time and movement. However, I found that the representational and figurative aspects of my videos did little to unsettle Western stereotypes of Iranian society. While they were informative and, indirectly, illustrated aspects of life in current Iranian society, they did little to overcome a distance between frame and viewers, who saw the videos in New Zealand: they did not form new perceptions. My next approach to exploring a new way of seeing that would connect to the whole through its parts, had as its focus the minimal part's point-of-view. This encouraged me to think of points of views other than human. But also, I realised that, to be able to engage viewers beyond the frame (apparent image), I needed to move the frame into the internal world of the video. That is, to concentrate on the inversion between frame and pixel on the inbound movement into the frame and to explore non-figurative elements within the already existing video (cf, pp. 118 ff). I attempted to think of the frame not as a fixed boundary, but as a fluid one that constantly convolutes the inside and outside.

5.4 Moving in: intensification (revealed concept; pixel and minimal part)

This was the beginning of my exploration of internal motion and Sadrā's theory of *tashkik*, as a constant questioning and doubting of what is apparent. My practice now aimed to connect Sadrā's theory to art practice via his ontology. Previous experiences in my creative practice drew my attention to new possibilities within digital video. I identified new potential in the materiality of digital video images through a process of examination and reflection. The enquiry into materiality drew my attention to the notions of substance and minimal part. I questioned the substance of moving image, focusing on the respective materiality of analogue or digital frames and the digital pixel.¹⁰⁷ Images of all kinds, according to Sadrā's Substantial Motion, are comprised of matter in change but are then abstracted by the mind. What could be the substance of a digital video?

¹⁰⁷ My exploration of analogue film was limited to theoretical considerations; my practice exclusively involved digital video.

For Sadrā, who was influenced by Shia theology, there is a fundamental unit/point, from which all beings unfold from and fold back into. “Beings culminate in a single *point* that is the quality of the essence and the cause of existents...” (Bursī cited in Rizvi via Sadrā, 2009, p. 130). The Perfect Man, or Imam, is the closest being to God, and “the point of light that is the First manifestation” of the Divine. This “primordial point” (S. H. Rizvi, 2009, p. 130) dwells in both visible and invisible realms. It has the outward nature of a Divine attribute, as well as an inward nature of the unseen Divine. This suggests that a point has *zahir* (visibility), which dwells in the sensible realm and has qualities of the Divine attributes, and *batin* (invisibility), which is of the invisible Divine. This fundamental point is a complex unit of hidden layers; the point is the light, which became a spirit, which then “entered the light, and made it a veil” (Bursī cited in Rizvi via Sadrā, 2009, p. 130). The point, the light and the spirit act as veils for each other, and thereby for the Divine. In other words, the point keeps veiling itself. These layers of veils flow in the universe through the point that culminates the whole, like points that make up letters.¹⁰⁸ The more the veils are removed, the closer one gets to the reality of being that is the Divine (S. H. Rizvi, 2009, p. 130).

Sadrā’s idea of the fundamental *point* encouraged my practice to discover the *point* and its layered veils in the digital video. Metaphorically, then, the point is a pixel in digital video, continuously veiling and unveiling itself in its connection to the invisible codes (cf, pp. 100 f). This new focus shifted my practice and research towards the minimal part, and to exposing its complex layers, which, according to Sadrā, are aspects abstracted by the mind (cf, pp. 58 f). The minimal part of the video facilitates a movement into the internal world of the frame/video. What might be the *zahir*, or manifest exteriority, and the *batin*, or hidden interior, of the pixel? In this process I identified myself as a minimal part in search of a minimal part in the video, which was taken out of its cultural context. That is, the frame that encompasses part of the world (cf, pp. 118 ff) and life in Iran was moved into new contexts (e.g. New Zealand, Germany, Canada) and its internal world was exposed in different places. Based on Sadrā’s thinking on the point, what are the hidden elements of the minimal part in the video, and what is the potential within each element? With these questions in mind, I explored the hidden elements within the collected and dislocated videos from Iran. To understand pixels’ experience of the world, I acted as an observer (cf, p. 43). An invisible pixel can

¹⁰⁸ Marks discussion on the “origin of the pixel”, and “early virtual reality” in *Enfoldment and Infinity* (2010), also informed my thinking on interiority of minimal part as well as points (see chapter seven; Baghdad, 1000: Origin of the Pixel (pp. 189 – 218), and nine; Heart, 1487: Early Virtual Reality (pp. 252-288)).

become visible and provide creative and alternate ways of looking at the world. The following are some of my successful approaches and experiments, which began to facilitate the movement into the frame and helped my thinking on digital video and its materiality in relation to Sadra's ontology.

5.4.1 *Isolating pixels: zooming in*

To *see from outside* what pixels do,¹⁰⁹ objectively as it were, I zoomed into an image on my screen and tried to isolate clusters of pixels. However, no matter how close I moved in, I was still not able to reach actual, individual pixels via the editing software, rather, the screen continuously brought up pixelated images at every step.

Depending on the type of camera I used, the pixelated images generated in this process were aesthetically different. The different pixel qualities derived from the two different camera types (handheld and stabilised) became significant factors in exploring pixels inside the image. Pixels generated by the handheld camera had a restless quality (that is, the content of each pixel changes more dramatically from frame to frame) while the others have a much slower pace. These differences influence, of course, also the relationship between pixels. Since I needed to adjust to the circumstances of travelling, I had to make use of whatever technologies were available and be open and adaptive to circumstances. These limitations became a source of creativity when I realised the difference aesthetic qualities resulting from different camera use and used my observations to inform the image quality of my video collection. In the early experiments, I used a VHD camera which also produced a different pixel quality from the HD camera which I used later. Similar to a hand-held camera, movement and internal changes of pixels in VHD appear slower and the images looked less smooth (because they had less resolution), while the images gleaned from the HD camera were much smoother. *The Gaze* and *Screen-pixel* are examples of this.

¹⁰⁹ When I write of pixels in the context of my work, I am referring to video pixels, not the pixels on a playback medium, unless explicitly stated otherwise. That is, the pixel is the cluster of information produced by the camera concerning one pixel cell. This information is then transformed in various ways until we see a pixel on a screen or, less directly, via the projector on a projection surface.

Screen-pixel (2011)

This test was the beginning of an investigation into the relationship between the pixel and the outside world. I wanted to expose a pixel and its experience by isolating it through intense close-up.¹¹⁰ In this experiment, I isolated a group of pixels (right image) from a video produced from VHS footage shot in the Tehran bazaar (left image; the video was part of the series of frame-to-frame experiments that also included *The Gaze* and *Communities of Bodies/Frames*, see above).

The left image shows the space of the bazaar and human forms that appear in front of glaring, ambient light that emanated from the entrance. A figure becomes distinct as a man, who walks out of the light and toward the camera. The video consists of 11 frames per second, instead of the conventional 25 frames. Despite missing frames and the resulting gaps in between, human perception tends to disregard these and still to see continuous movement. The slow frame change rate stretches time, and this slowness causes a viewer to sink into an experience of steady time.



Figure 40. Screen-pixel [Video: Author, 2010]

The right image, an extreme close up of groups of pixels appearing on and disappearing from the screen, has mechanical and disturbing qualities that produce a sense of estrangement. The changing units and their qualities, individually and collectively, result from changing internal activities of the left screen, which frames the outside world. The pixels appear to move and change, very fast, in a strange destabilising

¹¹⁰ In some of my tests I used the software Pro Video Player to zoom into my videos.

rhythm. Without my realising the implications at this stage, the pixels resulting from the extreme close-up were actually only a pixelated section from the overall frame of the video. However, I was interested in the new and different images which reside inside the perceived overall image and continuously change. They were invisible until I moved closer and stripped away the representational image that was perceived at first sight. This experiment was an engagement with Sadrā's concept of Substantial Motion, to which I had just been introduced, and its significance for different types of time and movement at the molecular level of the image (cf, pp. 62 ff).

In search for a pixel (2011)

In my next series of experiments, I reversed the relationship between frame and pixel and explored how the aesthetic quality of pixels varies (e.g., light, colours, movement) when using an HD video camera. One characteristic was that the boundaries between pixelated squares were less visible. The process of zooming in on a pixel on screen (in Final Cut Pro) was challenging: to locate a particular pixel, the frame had to be stretched repeatedly up to a magnification ratio of between 1000 and 5000 times. It was difficult to locate *where in an image I was*. I had to search around to establish the current position, guessing whether I was at a point I wanted to capture and doubting my position within the overall frame. This doubt, even though frustrating, became a source of creativity when I took the required trust in the process as a springboard that would move me to new points from which to move on to new ideas. Process was the only element left I could recognise and that would give me my bearings. I experienced this situation as something akin to being inside fog and trying to recognise the surroundings and find my direction; every step taken is with full presence and relying mostly on intuition.



Figure 41. Zooming into the videos (1000 to 5000 time zoomed in) [Video: Author, 2011]

The process of getting lost in the image of a pixel thus gave me an idea that to be unsettled and feel dislocated could prepare viewers' physical senses for an engagement with other ways of seeing. A powerless position can cause one to start embracing other experiences (for example, the *sama* movement, the turning of the body, helps a dervish to loosen his ties with the earthly element to connect to the unknown).

My processing of the original video proved that the frame is not a closed 'whole' but an open one, because it provided access to Deleuzian *sets* within my collection of footage – not only conceptually (e.g., through filmed objects, narrative, or the image qualities) but also tangibly (e.g., pixels, change rate, frame; see p. 86). The digital frame allowed for certain experiments (e.g., extreme close ups) that would not be possible (or at least would have been quite difficult) in the analogue medium. Continuous experiments with the same video caused diverse possibilities to emerge from a single piece of footage, which, eventually, allowed me to delve into the materiality of the video. Out of this process, questions arose concerning minimal parts and their relation to an open whole – ultimately suggesting that we may be able to connect with pixels and then, through them, back to the outside world.

Thus, my process involves a constant movement into and out of the frame, my country of origin, the past that is in the present. In each re-turn, I am new, and so is the frame. The return is not only a physical movement, but an internal transformative move that takes one's perception beyond the apparent.

Society of pixels - Pixels in HD video (2011)

Initially, one sees only intense close-ups of pixels in a small area whose movement (changes of pixels) slows down in time. The sequence is inserted into the overall video frame and, as the movement of pixels becomes slower, a small point appears and grows on the screen. The pixels of the larger image are isolated from this smaller one, which gradually become recognisable as a group of people cooking food for the public, in front of the entrance of the Friday Mosque of Yazd. The video was shot on the day of Ashura (for Shia Muslims, a day of mourning for the martyrdom of Husseyn Ibn Ali, grandson of Muhammad). The work explores possible analogies between the relationships of pixels and individuals in society. By inverting the position of pixels (nonfigurative) and the image of individual (figurative), I was hoping to forge a connection between the activities of pixels and those of individuals. The trial, unfortunately, was

not a success because of the way in which image and pixels stayed separate. However, what interested me was the movement of people informing the movement of the isolated pixels.

In this process, my searches inside the frame and returns to the world outside the frame, the video changed from an object of representation to something that encompasses a universe. In this universe, pixels, like individuals in a social frame, collectively form the identity of the whole. Metaphorically speaking, in Sadrā's philosophy the video is the universe and a pixel is a *being*. Considering the pixel as an entity in Sadrian terms encouraged me to question the potential for a pixel's perception and its experiences of the universe.



Figure 42. Society of pixels [Video: Author, 2011]

Pixelated tiles (2011)

The blocks of colour composing the dome of the Friday Mosque in Yazd turn at different speeds and in different directions on the screen. This video section was exported as a series of still images to which a pixelation filter was applied; the pixelated images were then retranslated into a moving image. Turning the colour segments of each frame into pixelated clusters was an exploration of their appearing and disappearing, as well as stillness and motion (or change) of each unit, in relation to each other and the

frame as a whole. However, I found this approach very limiting since it did not allow me to move into the frame; it also prevented me from accessing the actual pixel. Quite the opposite, the process destroyed the pixels by adding extra data to the data each pixel was carrying. However, the aim was not to create or generate new pixels (or, more accurately, pixel-shaped blocks of colour) but to understand and expose the existing video pixels and their activities in relation to the outside of the frame. In this experiment, compared to the pixel of the video, the pixel on the play-back medium (the screen) had to carry a new layer of information to represent the original pixels.

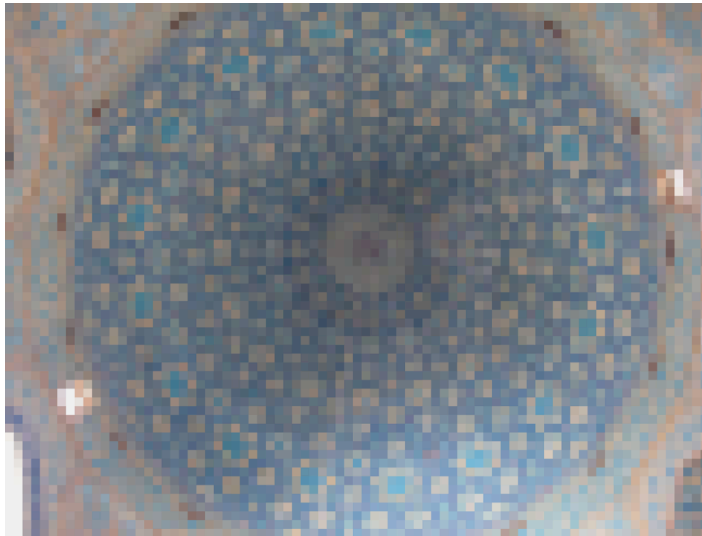


Figure 43. Pixelated dome [Video: Author, 2011]

These experiments suggest that a video image has layers, like an onion, and that moving beyond each layer brings about a new layer. What seems like *batin* at one time, turns out as *zahir* at another. The limitations attached to isolating and zooming into an image became a liability for my practice at that time. Most importantly, I was not dealing with the actual pixels of which the image is composed, but with an image or an idea of pixels (i.e., pixelated image). Nevertheless, exploring different qualities of pixels (and their potential life and experience) deriving from different cameras and different software applications systematically is something I intend to explore in the future.

5.4.2 *Pixel, tile, body, architecture*

In June 2012, I returned to Iran again. In this iteration, significant time was spent not only on collecting visual material, but also on identifying and interviewing Sadrā scholars and individuals familiar with Islamic arts. In a more focused approach, I looked specifically at the Imam Mosque (1629) and the Sheikh Lutfollah Mosque (1619) in Isfahan. Here, the collection of video material focused on people and pixels as minimal parts. The Isfahan videos more successfully show the correlation between people and their surroundings. Mosques (and especially the *gonbad*, the central part under the dome) unify individuals who experience harmony and connection through the act of praying. At this stage of the research, I began to perceive pixels, inside and outside the frame, as small units with their own lives and perceptions of the universe. As I was searching for actual pixels, visible and invisible minimal parts surrounded me: people, the leaves of trees, the rocks in the desert, and grains of sand under the sea. Like pixels, these units collectively create changing patterns through their connection.

Pixel, tiles, body (2012) explored these relationships between different classes of minimal parts with their environment. Tiles, like pixels, are permanently placed in a specific location. They are units with individual qualities, and with these qualities, they contribute to the group in creating patterns. These patterns cause the observers' eyes to travel restlessly across the surface. The tiles appear differently at different times of the day in the light that shines through openings beneath the dome and reflects off the surfaces inside. The mosque interior seems to be in a constant process of slow and smooth change. Under the dome and inside the hall of prayer, the calming effect of the closed space, with its blue colours and smooth round surfaces, slows down the experience of time as if one enters into a meditative state. Observing people inside the mosque, a link emerges between the patterns and small tiles, and an individual's connection to surrounding units. The patterns and tiles lead the eyes to look above, into the infinite. In doing so, one connects to one's inner space in which the Divine dwells, and back to the outside again. In the play between the eyes of worshippers and patterns on the tiles, the surrounding space connects humans to the Divine.



Figure 44. Pixels upon pixels [Photo: Author, Sheikh Lutfollah Mosque, Isfahan-Iran, 2012]

5.4.3 Pixels under the microscope

But what is the relationship between the minimal parts outside the screen and the minimal parts inside the video? This question energised me to reinitiate a search beyond the surface of the image to find the ‘actual’ pixels. For this, I used a microscope with the assistance of researchers and scholars, Dr. Ahmad Mohebi Ashtiani in Iran and Professor John Brooks at AUT in New Zealand. To see the videos under the microscope, I needed a small enough screen that could be placed under the microscope. A YouTube video filmed through a mobile phone by ordinary people in a socio-political context inspired me to use a mobile phone screen for my explorations. Even though I was still looking at the pixels through the microscope *from the outside*, it allowed me to get much closer to and observe the ‘real’ pixels. On the other hand, the lens of the microscope allowed access to only a very limited part of the image – a tiny section of the whole video. This experiment was the first successful attempt to see actual pixels of a video while they are actively producing a moving image.

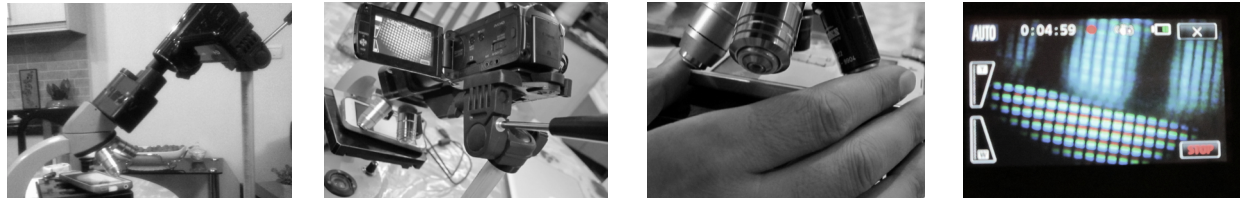


Figure 45. Magnifying a video under microscope [Still documentation: Author, 2012]

Two different microscopes were used and tested: manual and digital. Both showed the pixels as sub-pixels (i.e. as red-green-blue (RGB) particles) and their activities, for example, ‘on’ and ‘off’, as well as colour percentages where the colour moved between pale to vibrant and intense. Each RGB particle individually changed colours or shades of colour, which then produced the overall colour of the pixel, and consequently the image. Each microscope produced different images of changing pixels. At first it is a bit difficult to realise that one is looking at pixels. Their activities and connections appear as of a body that moves and transforms. This I found similar to a video of a dividing cell under a microscope, which shows the internal movement and transformation of the cell (the very early stages of an embryo) in which chromosomes form, then pair up and pull apart. Unlike the manual microscope, pixels from the digital microscope appear flat

and mechanical. They seem to have more of the appearance one would expect of a pixel, so they are easily recognised as pixels. Even with very strong lenses I was only able to magnify my image up to a certain extent, as beyond this point all that could be seen was noise and light. It is important to note that these experiments show pixels from a mobile phone screen. Each pixel's activity and change is informed by data and codes fed from the video, but the actual pixels were from the mobile screen. Not being able to access the pixels 'of' the recorded video was unsatisfying, but it made me think about the possibility of revealing the pixels from the *inside out* rather than the *outside in*.

Much later, after experimenting with the microscope, I came across a talk by Michael Barry, in which he explained a similar approach of magnifying historical Persian miniatures to discern their internal world. In his 2008 talk, "Rumi and The Sufi Tradition," at the Metropolitan Museum of Art, New York, Barry extensively discussed the symbolism of Persian miniatures in relation to literature and poetry. He referred to some of the extreme close-ups of miniatures (magnified 30 times) as *paintings within themselves*. Great attention to details helps to form strong relations between elements, and this makes sections of a whole appear as individual paintings. Furthermore, under a specific angle of light and with strong magnification, a miniature contains three-dimensional sculptures. This sculptural aesthetic is not visible to the naked eye, and only under certain conditions (the precise angle of light and sufficient magnification) can this three-dimensionality of a painting the size of an average passport be seen. And it is under these conditions that figures and patterns seem to come to life: from an apparently flat surface arise three-dimensional forms (2008).¹¹¹ These miniatures contain a world with many layers, a universe with many levels, of which only some unfold at first glance. These images are from the world of the imagination and the imaginal realm.¹¹² These miniatures have similarities with arts such as *talismah* and Kufic calligraphy, which also have layers of space and meaning beyond the apparent (see Marks, 2002).

¹¹¹ These miniatures undo the old assumption that Islamic arts are against figuration (which they are under certain conditions, and this is addressed extensively by Barry in his talk, 2008).

¹¹² Imagination is one of the states of being that relate to a different level of hierarchy in the vertical realm. Sadrā extensively discussed the imaginal realm and forms created by the imagination as real, even though they have no matter in our ordinary understanding of material forms in the sensible realm. Because of the lack of material properties and the imaginative qualities of forms, the imaginal realm is also considered as the realm of "hanging forms" (Suwar al-mu' allagah)" (S.H. Nasr, 1987, p. 181).



Figure 46. Patterns of Friday Mosque [Photo: Author, Yazd-Iran, 2011]

Inside/out (2012)

Like alchemy or foliated Kufic writings (cf, pp. 50 ff), where letters become figures concealing their message (Marks, 2002, chapter 8), the work *Inside/Out* explored new ways of seeing by turning images inside-out through the microscopic view of a video. In its movement from inside to outside and its use of technology, the making of the work was not simply aimed at viewers' understanding of the images. Rather, it encouraged viewers to bring their own perceptual and sensory memories into the making of sense. The co-presence of macro (the actual image) and micro (zoomed-in through microscope) images aimed to induce in viewers a constant shift between perceptible/recognisable and imperceptible/unrecognisable elements. This shifting of viewpoints alternately reveals and withdraws what we cannot normally see, and with it, metaphorically, the pixels' experience as minimal part, both independent and interdependent.



Figure 47. Living-moving pixels [Video under microscope: Author, 2012]

The idea that pixels have potentials, beyond their fixed position and their function as code transmitters, that create images which differ from the perceived image of the screen as a whole, was energising. Together, the relationship of pixels and their coming into being produced surprising and unexpected visual aesthetics. They took and transformed the outside information of the frame and created their own images, so different to what the camera had produced. The two different perspectives, one created by the camera's position and the other by zooming into the frame, encouraged me to take the movement inside the frame further, and to work with one actual, complete, original video pixel. The pixels in this experiment, by comparison, were screen pixels and further split into sub-pixels. So, how can we locate the actual pixels of the video?

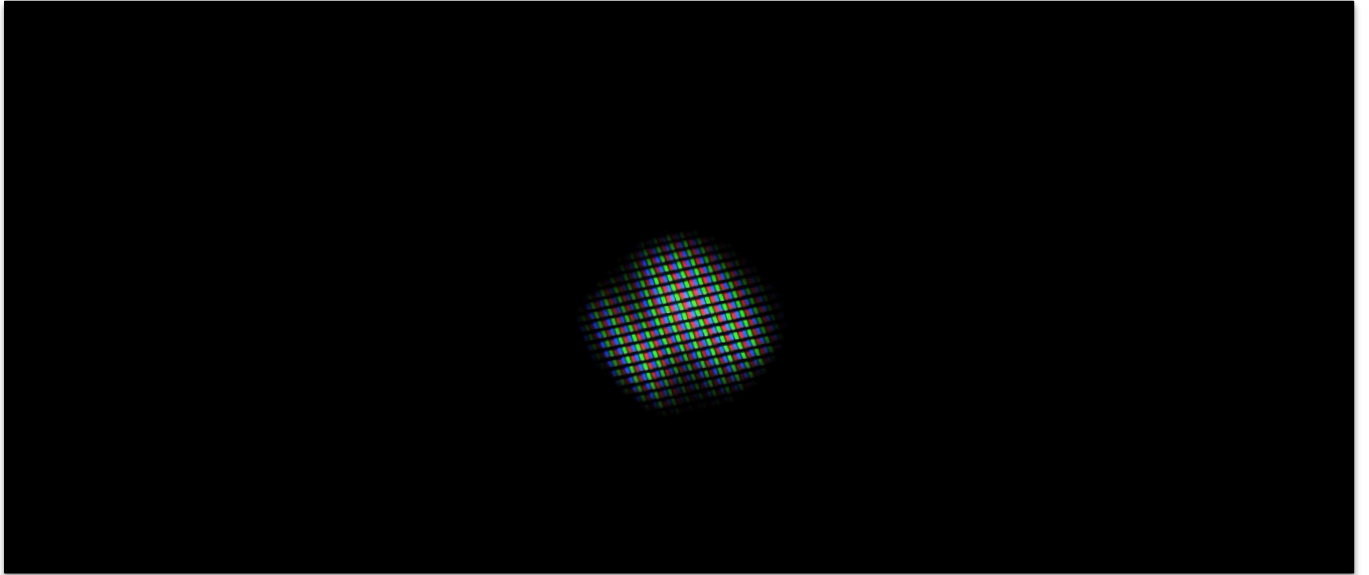


Figure 48. Bodies and tiles [video: Author, Sheikh Lutfollah Mosque, Isfahan-Iran, 2012]

5.4.4 Picking a pixel

The following three experiments focused on considering becoming and process in time and motion. Again, the process of finding and exposing video pixels moved from inside to the outside.

Three pixels (2013)



I used editing and postproduction to pick a pixel and capture the colour produced by that pixel *over time*, frame by frame. In Final Cut (a video editing suite), I masked the area of a pixel out of the whole video image, then selected the colour of the pixel using a drop tool, frame-by-frame, and applied it to a new frame, in which the colour of the pixel occupied the whole and complete frame. This was a long and time-consuming process. Although the final product showed a pixel's activity, and even though the pixel was exposed in actual size, what I was looking at still was not a pixel. It was colour produced by the pixel. The process, as a frame-by-frame animation, illustrated the colour code a pixel received over time. To expose a pixel's activity during a 20-second video required long hours of repeated action, isolating a pixel, selecting its colour, next exposing it, then moving into the next frame (see *Through a dot*, p. 99).

Figure 49. Three pixels [Video Installation: Author, Auckland - New Zealand, 2013]

After repeating the same action, over and over again, for hours, the process became meditative. The frames became like the beads on a *tasbeeh* (prayer beads) during *zeker*, the recital of the remembrance of God. Soon, I became lost in it. The interaction with something that seemed lifeless and mechanical turned into a lively experience. I was intuitively responding to the pixel, and this was giving a new dimension to the pixel's life. In the distance between my eyes and the pixel an exchange was taking place; the tiles, my eyes, the pixel that would mostly show different colour of a tile would be seen in overall image. The time of a pixel was

tied to the video, which was splitting into past and present, as well as inside the frames. While the speed in a pixel seems faster, the exposed pixel due to its scale seemed slower, as if time was stretched as soon as it was isolated from the rest. The pixel had a faster rate of change than perceived moving image in the frame. Although I came very close to perceiving a pixel's experience of the world, it was still a representation of a pixel, in which I was just extracting the presented colours.

Lighted tiles (2013)

James Charlton, a scholar and artist at AUT, developed a piece of software in the Max-MSP program called Pixel-picker for me, which allowed me to 'pick' a pixel (as actual material properties of a pixel) and study it closely. This software identifies the codes of a single pixel when a point in the video is selected. The activities of a pixel are shown at the same time as the video is playing. This was a significant discovery, which helped me see a pixel's activity in relation to the surrounding pixels, as well as its relationship to the image on the screen, and so, to the outside world.



Figure 50. Three stages of a pixel in Pixel Picker [Screen shot: Author, 2013]

While the programme facilitated and sped up the process of selection and representation, the human connection was missing in this process. I lost the human connection when I used an algorithm to decode the image and did not need the excessive laboriousness of the previous experiment any longer. Comparing

the images, the video produced with the help of the programme seemed more precise to me. Perhaps the lack of possibility for imperfection affected the quality of the resulting image.

Different pixels revealed different types of motion. Each pixel, as an entity, showed its own time and movement, and this was given by the outside condition of the camera.¹¹³ Selected pixels taken and exposed from the video *Living Mosque* (see above), which is a distant view of the video of tile, show different modes of time and motion inside a single frame. Here, too, the external change and movement predetermined the change and movement of pixels. The reflection of the movement of individuals on the tiles would change the pixels' activity. This has affinity with Sadrā's idea of Substantial Motion, in which each entity has its own experience of time and motion. If, for Sadrā, this motion concerns intensification, what is the intensification of a pixel? (cf, pp. 107 ff)



Figure 51. Pixels of the Living mosque [Video: Author, 2013]

The experiments involving Pixel Picker show pixels, as minimal parts, with a limited view of the universe. A pixel 'sees' things in an extreme close up, and loses the overall view, as if looking at an object through a pinhole camera. As a point, a pixel perceives haptically (see Marks, 2002) – only small amounts of information, but to their fullest intensity. This perception is momentary, like the flickering images in for example *N:O:T:H:I:N:G* by Sharits (cf, p. 110). The pixel, as an eye, touches the world, and in each touch the intensity of experience makes it emit feedback. In each blink, it takes in the world and reflects it back to the world. It shows us a very small fraction of the universe, yet this fraction is fully significant to the whole.

¹¹³ Each pixel received different algorithms, which are based on changes in the outside world (See p. 89 above).

5.5 Tracing points (Toward the final exhibition)

To determine what ought to be included in the final exhibition, I reviewed the video footage shot for this project to identify recurring and cumulative aspects of my research (e.g., my relationship with the camera and the relationship of the camera with the world; the relationship of molecular levels of moving images with the molar ones; between units and unity, motion and stillness, individuals and environment, space and society). I considered what happened in front of the camera without my doing (e.g., someone's gaze) and pixels' activities that became visible because of my doing (e.g., their vibration). These aspects were dealt with in two separate parts of the final submission: a video screening and an exhibition of related works.



Figure 52. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014]

The screening attempted to engage viewers in an intimate experience of the video that would allow them to shift mentally into the space inside the image, by contrast with *looking at* the image as outsiders. For this purpose, the screening took place in a black box: a large, empty dark space whose simplicity and quietness offered no distractions. Viewers could immerse themselves in the experience and begin to empathise with individuals and spaces inside the video; to connect as minimal parts to other minimal parts.

Two screens juxtaposed magnified pixels, with their changing coloured light, with images of abstracted patterns of domes and the coloured tiles of Persian mosques produced in Sadrā's era. The larger screen (2.700mm x 5.700mm) was allocated to figurative and representational HD videos taken in the mosques. A much smaller screen (1.50 mm x 1.80mm), hung in the space and floating in front of the larger screen, showed an image of enlarged pixels. During the screening, the activity of a single actual pixel, taken from the video playing on the large screen, was presented synchronically on the floating small screen. That is, the pixel activity made apparent on the small was identical with that of the source pixel in the footage playing on the main screen. The floating screen, viewable at high quality from both sides, allowed viewers

to see a pixel's activity from either side and from different positions; either from between the screens or standing back and observing both screens and their synchrony simultaneously. Viewers could thus experience different moments arising from the relationship between pixels on the small, free-hanging screen and the full-scale, figurative image on the large screen. The audio, garnered from the video footage on the large screen, was played through ten speakers which were placed to create an immersive experience of the sites shown the video.



Figure 53. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014]

The video on the large screen was assembled from a group of shorter pieces, shot both with hand held and stable cameras. While each also functions as a stand-alone, in this instance they contributed to and formed a whole. In the parts shot with a hand held camera, the figures in the image is often distorted into lines and colours, providing a dazzling experience. On the other hand, the stable parts made with a stationary

camera recognisably render people in their surroundings. This combination of two types of images moved viewers through different experiential stages, continually destabilising and re-stabilising their perception. At one moment in this process, viewers were predominantly perceiving and observing others; at another, their experience was affected by the movement of patterns in the video. In this set-up, the presence of pixels was dependent on the main image shown on the dominant large screen. Presenting the pixels by themselves in a gentle way was intended to steadily increase viewers' awareness of the *inside the frame*. While the large video screening shifted between frames, moving in and out, the formless qualities of pixels were presented on the small screen in a stabilised way, visible alongside the figurations on the large screen. The synchrony of the figurative video and the nonfigurative qualities of the pixel screen, together with the spatial aspects of the installation (micro and macro scales, darkness and simplicity of space, immersive sound) and the qualities of the images (hand held and moving cameras and poetic aesthetics), provided a smooth transition into an experience of an unfamiliar spaces and conditions. Placed between figuration and non-figuration, viewers vicariously experienced Iranian socio-cultural spaces while exposing themselves to a new perceptual mode driven by the pixels' activities in relation to a world outside frame.

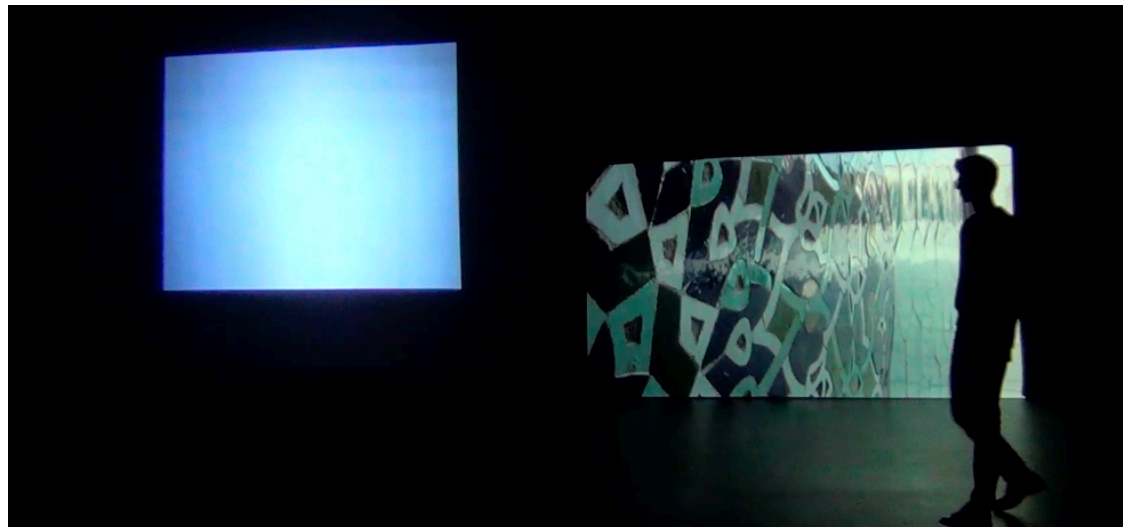


Figure 54. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014]

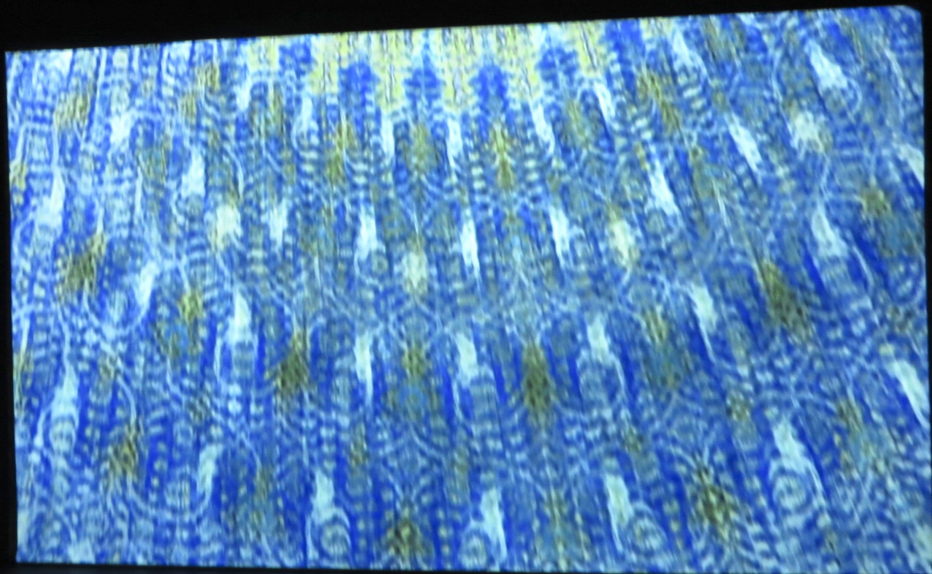
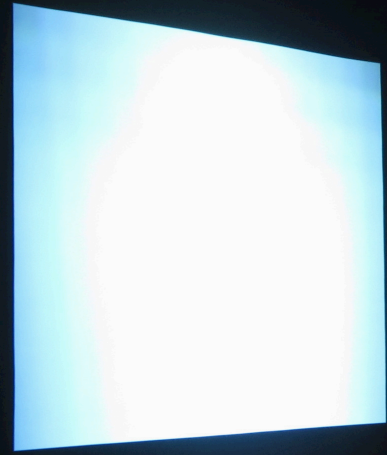
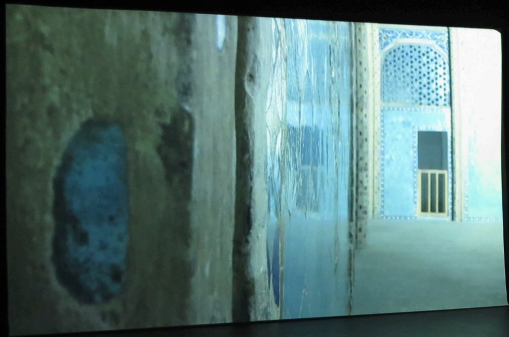
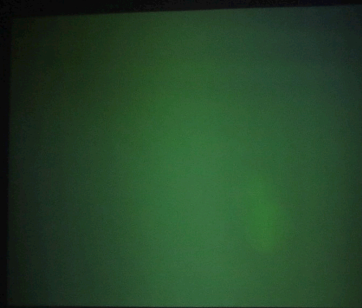




Figure 55. Motion within motion [Video screening: Author, WG AUT, Auckland- New Zealand, 2014]





While the screening in the black box space was mostly motivated by an element of physical movement, which, for example, manifested in my video practice during travels to Iran to collect video material, a simultaneously staged exhibition, in a separate space, emphasised another aspect of my practice. It highlighted some of the outcomes of my experimental approach of moving *into the frame*, observing pixels and their activities.

Thus, the exhibition was dedicated mostly to individual pixels and their experience. Highlighting their nonfigurative and formless qualities, the exhibition focused on the minimal part of digital video, raising questions of what we could possibly see from their point of view, which we cannot see looking at the overall image. Attention was given much more to the internal activities and changes of the video than to the figurative video image, so that this presentation inverted the usual relationship of frame and pixels by giving full presence to each individual unit. Four large LCD screens, positioned across the gallery space, were allocated to a single pixel each, garnered from a video showing on one of two (larger) LCD screens that were attached to opposing walls.



This video, however, also shot in Iran, was more like a reference point to the pixels' origin than a clearly visible synchronous source. By dedicating a whole series of screens, each much larger than an individual pixel's actual size, to different pixels' activities, the internal changes in each pixel become apparent: each pixel presents different and ever changing experiences of time and motion, as well as different points of views according to its particular relationship with the outside of the video. Viewing its activity in time, it appeared as if each pixel had its own personality. Viewers of the exhibition tended to spend time with individual screens, projecting themselves into a pixel, while they could also walk amongst them.

Figure 56. Motion within motion [Exhibition: Author, St Paul Gallery, Auckland- New Zealand, 2014]

Unlike the screening, the exhibition was focused on the pixels' activities, and this influenced the selection of footage. Qualities of pixels in a video footage, such as intensity of colour and speed of change, became primary criteria for inclusion. This was to highlight the pixels' experiences in relation to the video footage.

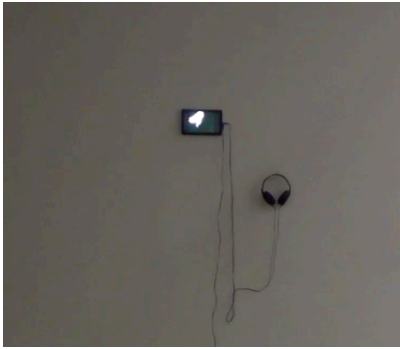
Hence, I needed to look very closely at my videos to find pieces in which one particular pixel could best perform as an individual unit, once it was extracted from the group of pixels in the screen. This process imposed its own challenges. Instead of being guided by my understanding of the figurative and representative elements of videos, I needed to detach myself from them, trusting the raw qualities of pixels, to predict the possible relations that could be formed amongst pixels outside their original video. Even though my research was oriented towards the relationship between figuration and non-figuration, I realized that, in this particular part of the process, I was seeking for meaningful connections at the pixel level. This was unsettling: as I tried to allow pixels' experiences to come forward, without interventions from my side, I realised how I automatically strove for forms and familiar experiences with which I could identify.



Figure 57. Motion within motion [Exhibition: Author, St Paul Gallery, Auckland- New Zealand, 2014]

At the exhibition, the four pixels in the middle of the space were not synchronised with the original video presented on the back wall. Though the result of technical limitations regarding synchronisation of the six screens, this situation was also a test: how would each pixel be perceived independently, with its own time and motion? From this process, questions arise that needs further theoretical and practical investigation;

do viewers impose their expectations of what pixels should do, and how they should form an experience of time and motion?



On the threshold to the exhibition, on a small screen mounted on the outside wall next to the entrance,¹¹⁴ the forty-second video by Zaid was exhibited (see p. 112), This was to suggest a connection between different entities, an experience beyond anyone's perception that is indexed in the pixels of the video. It exposes part of another person's point of view, not mine, and thus broadens the scope of my investigations. For forty seconds, time and motion gain a different meaning, a measure of experience beyond the norm, full of constant shock, and a vibration that is silence beyond immediate perception.

Figure 58. Video by Zaid [Entrance to the exhibition: St Paul Gallery, Auckland- New Zealand, 2014]

Together, exhibition and screening intended to expand perception and unfold new points of views. Contemplating a pixel, an individual person, or a tile can give rise to musings through which they become connected, one to the other, beyond apparent their distances and differences. Aspects arise that are not apparent to immediate perception, but nevertheless indexed within an entity. Inside and outside merge, convert and convolute, and connections are made and exposed – as parts of a flow of change.

¹¹⁴ The same video was also shown, on a still smaller screen, at the back of the left wall inside the exhibition to remind viewers of one of the important connections between different entities which formed a starting points for the research.



Figure 59. Blue tile. Friday Mosque [Video: Author, Yazd-Iran, 2011]

6 Re/turning point (Conclusion)

For a research project that intends to be transformative and is concerned with change and becoming, a conclusion seems contradictory. However, at a point where certain conclusive remarks can be attempted, I recognise an opportunity in the need for a conclusion. A platform can be created for a future expansion of ideas, in which the end point of one event transforms into new points of departure and becomes part of other systems. In this sense, this conclusion looks back at the key points and main outcomes of the thesis. I reflect on what I claim to be most significant, both theoretically and practically, and I also address areas that merit further investigation.

The research started by investigating the surface of moving images (particularly images portraying Iranian people and their culture, but also including other Middle Eastern cultures) for possibilities to unsettle clichés. The term cliché designates habitual thoughts in Deleuze, akin to Sadrā's notion of abstraction. Such habitual thoughts can be encouraged by what I call the *surface* of the image, by the image perceived in the first instant. The wish to escape such stereotypical imagery encouraged me to explore new ways of seeing and knowing through the moving image. This eventually took my research along an unexpected path; minimal parts and pixels became central in a search for new ways of expanding our perception from non-human points of view. I therefore explored: the materiality of the digital moving image; time, movement and becoming; and the space between the moving image, as an art practice, and Persian Islamic philosophical concepts. Through philosophies of time and motion, I looked at the minimal part in social contexts, as well as in digital media. My interest in articulating experiences of becoming/intensification, time and motion, as well as of minimal parts, eventually led me to the classical Persian-Islamic philosophy of Mulla Sadrā. In my research practice, I experimented with the creative possibilities of Substantial Motion for making moving images that are not limited to representational approaches.

Sadrā's philosophy in general, but particularly his concept of Substantial Motion, became the fulcrum of my theoretical and practical investigations. From Sadrā's ontology of *real* and *existence*, three themes not

only proved to be helpful in understanding moving image and materiality of digital video, they also offered new ways of knowing. First, Sadrā's notions of *abstraction* and *real*, which turn our common-sense ideas of these terms on their head, encompass visible and invisible parts. These notions then provide a platform for an investigation of the image. The real, in Sadrā's theory, is the most invisible and simplest. Substance, that is, the simplest element of an entity, is placed between the visible and invisible realms and accommodates constant transformation within an entity. Second, *tashkik* (intensification) describes change and becoming; significantly, it means both "doubting" and "becoming more or less" – this connection being fruitful for my purposes of unsettling stereotypes. Third, all entities share an *experience* of being that validates their existence – this notion gave rise to ideas of becoming-pixel and the point-of-view of minimal parts. Transferring Sadrā's substance and its qualities to the materiality of digital video, pixel and substance began to share similarities – pixels now becoming fluctuating, constitutive (minimal) parts of a digital image.

Moving image practice became a point from which to explore processes of becoming in both Western and Persian Islamic context. Sadrā and Deleuze met, as if in a third space (*Bhabha*), and, in a dialogue between cultures, their similarities and differences, tensions and affinities, started to interact, energise, and challenge each other. Deleuze's immanence approach may seem to contradict Sadrā's religious views, if Sadrā's universe is seen as a closed universe. However, as I argued, Sadrā's transcendental approach is open. Even if one assumes that an open universe has no place for God, there is no need to disregard the Divine in Sadrā's worldview to make his ideas helpful for contemporary use. Sadrā's emphasis on an infinite Divine as the only unchanged within the visible and invisible realms suggests an open universe with infinite possibilities for change and becoming. Intensification and dynamic hierarchy inherent in Sadrā's universe can be explored further in relation to Western process philosophies, such as those by Bergson, Deleuze, and Whitehead, opening up new dimensions in the latter. Yet, juxtaposing different versions of immanence and transcendence imposes its own limitations, in that the comparison can be extended only to a certain point.

For my research, for instance, the use of certain terms, such as Sadrā's *visible* and *invisible* and Deleuze's *actual* and *virtual*, generated its own tensions. Bringing these concepts together was nevertheless important for my creative thinking and the formation of new concepts. However, I acknowledge the fact

that this area needs more investigation. It should be also noted that there is an inherent difficulty in translating Islamic concepts that are foreign to Western readers into the rationale for a creative practice-led research project. This difficulty, of course, was also a source of creative inspiration and lent the project insight and rigour.¹¹⁵

The three themes I identified earlier (*abstraction* and *real*, *tashkik* (intensification) and an *experience* shared by all beings) all pay attention to matters we either overlook or assume to be the least significant. Thus, when the invisible is elevated over the visible, what is not apparent to perception becomes more significant for revealing the real. This view encourages doubt and questioning of the *zahir* (visible or apparent), to reach the *batin* (invisible or hidden). Doubt and questioning (the first meaning of the word *tashkik*) aims to overcome abstraction. In my research, applying this idea to moving image showed that there are many imperceptible elements and unrealised potentials in an already existing video image. Validating invisibility, as a heuristic device in my investigation of an expressly visual phenomenon, and constantly questioning the seen, became helpful for understanding digital video. This is particularly so since its materiality always somehow seems to be less in comparison to analogue film, so that some film theorists (e.g., Rodowick, 2007) suggest that digital video is incapable of representing reality and unable to reproduce the passing of time. Also, the critique of materiality in digital media is based on an apparent lack of indexicality. They also argue that the image of digital video is disconnected from the real world because of the intervening process of digitisation. By contrast, following Sadrā's view on materiality as potentiality, I propose that understanding the materiality of digital media is important for unfolding its potentials. Moving image and its visual qualities are commonly considered from the outside, in relation to the represented objects or events in space and time. I found it helpful, on the contrary, to look at the moving image from inside out, to understand digital video in accordance with its own qualities and experiential dimensions and potentials. These potentials were also investigated in relation to the outside-of-the-frame, which might be imperceptible in the overall image but which nevertheless informs the formation of the image.

¹¹⁵ Using traditional Islamic philosophy for creative thinking and making, I hold a respectful position toward theological aspects. However, the use of Islamic thought for an art purpose, and by someone who is not an expert in the field of Islamic philosophy, may not be welcomed by Islamic theologians and philosophers. Such a position restricted the scope of my enquiry as a practice-led research.

In Substantial Motion, the invisible and internal motion forms the change of matter, akin to the process of becoming in Deleuze where the molecular level forms the molar. The stability of form at the molar level actually depends on the interwoven aspects of molar and molecular (or visible and invisible) and the constant change at the molecular level: the latter's movement and constant change helps create new points of view and experiences on the molar level. While representation relies on visibility and form to be representative, there is an underlying or internal process that provides potentials to be actualised as form. Becoming aware of these processes can expand perception. Whereas abstraction or cliché, as the already evident, always concerns habitual or intellectual knowledge, the process of change is open to intuitive and experiential ways of knowing; constantly, old layers are removed for new ones to become. Yet, the new is never new; it always contains parts of the past that is preserved in the passing *Now*, and in actuality as a recognisable form. Figuration and non-figuration are interdependent. In their interplay exists a place where there is and there isn't form.

These notions can seem challenging for image makers; we are always faced with images as we make images. When applied to practice and digital video, these ideas encourage us to consider things beyond their presented form: to stay alert to their becoming.

At first sight, these ideas may sound iconoclastic, or anti-representational. They are not. Rather, I am concerned with an image-making that is not only driven by the invisible and the world of imagination,¹¹⁶ but that is also aware of and engages with the underlying causes and internal processes. This suggests great potential for creativity, in which already existing images and entities have much more to show us than what we perceive, because they are constantly in a process of individuation. Being aware of that space between form and formless allows one to move between creating an image and reaching towards an imaginal realm where unperceived images reside. These images can be open to different types of experience, just as the Islamic dome works both at the level of the molar (visual satisfaction and form) and the molecular (experience). In my practice, paying attention to the process and being part of it made me

¹¹⁶ Imagination is one of the states of being that relates to a different level of hierarchy in the vertical realm. Sadrā extensively discussed the imaginal realm and forms created by the imagination as real, even though they have no matter in our ordinary understanding of material forms in the sensible realm. Because of the lack of material properties and the imaginative qualities of forms, the imaginal realm is also considered as the realm of "hanging forms" (*Suwar al-mu'allagah*)" (S.H. Nasr, 1987, p. 181).

aware of possibilities that were not perceivable at first. As I became more aware and more part of an internal change, *tashkik* (as doubt) returned to another shade of *tashkik* (as intensification).

Tashkik as intensification is another concept of Sadrā's that is significant for digital video and art practice. *Tashkik* as part of *al-harakat al-jawhariyya* (Substantial Motion) became a great source of inspiration for my conceptual and creative thinking and making. Sadrā's theory of time and motion specifically considers the changing relationships between part and whole and universe or, in my context, pixel and frame and outside world. Using digital video as a metaphor for the universe, in my thesis, I considered pixels as entities or minimal parts within a frame. Pixels always also stood for other minimal parts, such as individuals in society or leaves on a tree. Observing the relationship between minimal parts, and investigating motion and time inside the frame, I questioned our common understanding of time and motion in digital video and of the relationships of pixels to entities outside of the frame. Substantial Motion, applied to digital video and its materiality, suggests that each pixel has its own time and motion, and that it undergoes its own form of intensification. Through their individual changes and their contact to the invisible realm (e.g., through algorithms) pixels provide an overall experience of time and motion within a frame. Themselves formless, they nevertheless form the perceived image. As a collection, or collective whole, and as they themselves are changing at each instant, pixels also shape and reshape each other in our perception. When pixels are considered as open and in constant change (in contrast to film theorists like Rodowick who give precedence to the stability of the film frame), a digital image can become more real. Sadrā argues that each being is in constant change, in all its parts, even though as a whole it appears stable. Applied to digital video, this suggests that our perception of stable images is an abstraction.

From the process of intensification and internal change, which connects all beings with the Divine, arises the notion that all beings have their own experiences of the Divine and thereby the universe. In my work, thinking about other entities' experiences provided a starting point for considering other, nonhuman points of views – to expand our human perception and conceive of possibilities beyond the produced images. By observing visual qualities of the actual pixels I selected in a video, I explored concepts and ideas concerning minimal parts' experiences.

To open new ways of seeing, and to move beyond stereotypical imagery and representation of Iranian people and their culture, involved expanding my own perception in the first place. Whether, in my practice, I have created new ways of seeing for others cannot be answered by *me*. I think I can say, though, that my research and practice brought attention to other entities' *being* and experiences. In outwardly and physically moving between places, and at the same time engaging with the internal space of the frame, I came across many people and other entities, across many stories, and each one of them came to expand my perception. Much of the time, I indexed the events which made an imprint on me, and the entities with which I came into contact; like a pointing finger, I raised attention to their existence and experiences. This suggests that, for new ways of seeing to be revealed, one needs to be in the midst of the wave of change and the process of becoming, of a becoming that is not only external but extends to internal change, in which all beings are part of the same *real*.

While theory set me on the path to exploring *al-harakat al-jawhariyya* (Substantial Motion), practice helped me understand it through the observation of change between parts and whole. Approaching my research under the banner of Substantial Motion made available to me modes of investigation that are different from philosophical enquiries, for instance when they avoid abstraction and encourage intensification. Yet, overcoming abstraction seems impossible, because whatever becomes visible and apparent to the mind immediately suffers some kind of abstraction. However, I suggest, when one aims for intensification, the new images that are created can intensify one's being before becoming an abstraction. The more the invisible actualises, the more intensification occurs, and the closer one gets to Sadrā's *real*. *Tashkik*, central to Sadrā's approach, seeks constant doubt. Further questioning of concepts and images, including those here presented, will nurture change and intensification.

The originality of my research lies in it being the first of its kind, interfacing Sadrā's philosophy with aesthetics and moving image making. The outcomes of this research project, the thesis, consists of a series of experimental videos and a written exegesis. The thesis opens onto a new perspective on digital moving image, via the process of 'becoming' in the context of classical Persian-Islamic traditions. It creates a common space, like a *hashty*, between the latter, contemporary digital video practice and investigations into the being of a *pixel*. In this way, it contributes not only to the field of digital video and media art, and those generally interested in transcultural perspectives, but specifically to Persian-Islamic cultural issues.

This research suggests that Sadrā's worldview and philosophy should be investigated further for digital video and art practice in general. I believe that my research only scratched the surface of Sadrā's ontology in relation to digital video. I focused on Substantial Motion, intensification, real, and existence. There are many more concepts from Sadrā's philosophy that can inspire creative thinking and moving image making, such as *alam al-mithal* (imaginal realm), *asfar* (four journeys), and *tashakhkhus* (individuation), to name a few.

Some constellations in my research, developed by bringing Sadrā and digital video together (e.g., the open pixel, experiences of minimal parts, relationship between inside and outside of the frame, and becoming-pixel), can be explored further through theoretical and practical engagement. Furthermore, bringing Sadrā's thinking together with that of some Western process philosophers in moving-image research is likely to prove hugely generative. Similarly, the pixel, its experiences and its physical qualities, can be explored further, as part of the overall image, in digital video practice. During my research practice, pixels were studied individually. Yet the relationship between the pixels and their effect as a collective needs more exploration. Software and hardware investigation of pixels, and more development on a software-like pixel picker, will advance understanding of the pixel and its potential in relation to the outside of the frame, and in the process of becoming. Exploring a community of pixels can help to understand the fertile space between figuration and non-figuration. Finding a middle ground between stability and change, figuration and non-figuration has proved to be difficult in my practice. Yet, this middle ground is important for the movement between perceptible and imperceptible that can transport a viewer beyond a represented image.

In the constant movement between inside and outside, molar and molecular, representation and non-representation, units are connected and, between them, new possibilities take shape. The frame of the Persian painting *Language of the Birds* (c. 1609)¹¹⁷ by Ustād (Master) Habībullāh Mashhadī suggests an opening through which the world inside can connect to the world outside, allowing for a movement

¹¹⁷ In early seventeenth-century Isfahan, this miniature was added to the 1487 Herat manuscript, by command of the Iranian ruler, Shah Abbas, for the presentation of the completed volume to the family royal shrine at Ardabil. This painting is therefore contemporary with Sadrā, then teaching in Isfahan.

between the earthly world inside and the cosmos outside of the frame (Grabar, 2000). The tree of life that indicates the presence of the Divine (a common symbol in Persian painting) breaks through the frame and reaches the beyond. This connection to the outside or the Divine, like the connection of the pixel to the outside or the algorithm, refreshes the being of entities inside and contributes to the change by which they reshape the whole.

Let us return to the point where the thesis opened up: a tile in a mosque, in which diverse elements (pixel, individual, tiles, and me) met. As if in a miniature of the world, each individual inside the mosque contributes to the formation of patterns and relations. The degraded or lost tiles of the Friday mosque in Yazd speak of a history and a time that has passed, while an individual in that space becomes part of that time and experience. Here, then, we have the camera and a pixel, which is a fragment of the whole experience. In this space, a missing tile, the gaze of a stranger captured in the camera, a pixel that repeats that gaze many times, and a researcher, come together to form an image. When a viewer then faces this image, s/he is not looking at one image but at a collection of movements and experiences that took place here at a certain time. The tiny experience of a pixel together with that of a tile in the mosque and the gaze by a stranger have formed something new – a new relation. Much more has been captured than can be seen in the image.



Figure 60. Language of the birds. Miniature illustrated in Herat by Ustād Habibullāh Mashhādī (1609)



Figure 61. Imam Mosque [Photo: Author, Isfahan-Iran, 2012]

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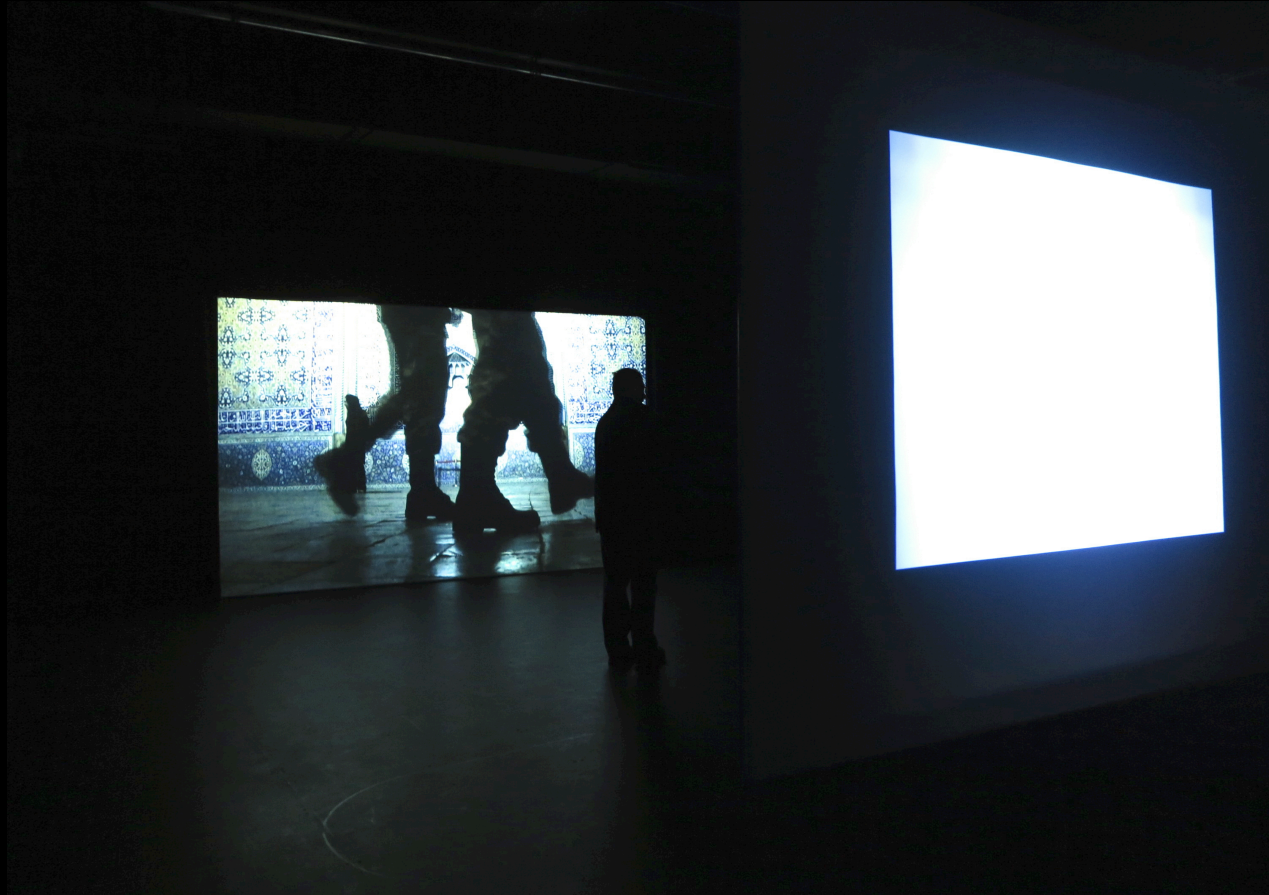
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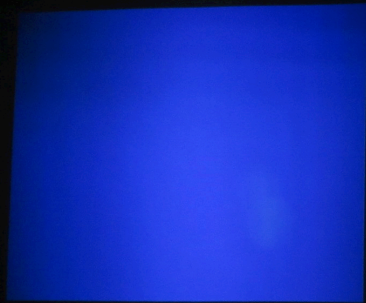
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8 Appendix

The following is a description of works and practices by other artists I have mentioned in the introduction of the thesis. These works have been informing my thinking on moving image and digital video. The description below is intended to give my discussion in the main text additional context.

8.1 Artists engaging Islamic concepts and aesthetics

The video, *Allahu Akbar* (Alshaibi) by Usman Alshaibi uses Islamic motifs and imagery to create a sense of movement similar to the Islamic tile designs. However, *Allahu Akbar* appears to adapt only visual aspects of traditional Islamic aesthetics for a contemporary moving image, but not to move further than the creation of the visual effect by, for example, evidencing a politics of practice. Anya Belkina's, *Crowded With Voices* (2007), different to Alshaibi, focuses on the Islamic influence of Sufism. The figure of a Sama dancer multiplies in his circular movement, while patterns located on either side of also multiply, suggesting 'many' concealed within 'one'.¹¹⁸ *Ultimate Computing; Ultimate Computing – The Holy Zero* (2010) by Ahmed Nagy, uses social behaviour and biological technology to form new concepts and forms. The outcome moves between images of media and abstracted, geometric patterns, in which their formation, as well as their aesthetic, is Islamic. I found the way in which the work also suggests an attempt to create new images from existing media codes intriguing for my project.

On the other hand, the poetic film *The White Meadows* (2009) by Mohammad Rasoulof, is political as it engages with Islamic thoughts (as well as challenging dogmatic, religious views and manners). The film can also aesthetically be considered Islamic, not so much because of visual references to Islamic symbols and appearances, but due to its underlying meanings and references. Other poetic films, such as, *Bab' Aziz – The Prince Who Contemplated His Soul* (2005), *Wanderers of the Desert* (1984), and the *Dove's Lost Necklace*

¹¹⁸ Digital media artists Hakim Bey and Mongrel, and Karim Lotfy similarly apply Islamic concepts and patterns to their work.

(1991) by Nacer Khemir, engage significantly with Islamic concepts of Sufism without representing Islamic forms and aesthetics. They indirectly demonstrate a new image of the Islamic world and concepts.

In the videos by Sedira and Nouredine, provocative and compelling images confront viewers with issues of marginality and immigration. *Dieu Me Pardonne* (May God Forgive Me, 2001-2004 Mournir Fatmi, 2006), and *Saving Face* (Toufic, 2003) are examples of works that challenge and question their media by transforming the initial impression of the images. Video poems by artists such as Arwa Alsamarai, Suheir Hammad, and Anida Yoeu Ali are concerned with issues related to Muslim identities, but they are not based on or engaged with Islamic concepts. Furthermore, the music video, *Mistaken for Muslim* (Ali, 2010) confirms the severity of real-life issues surrounding Muslims' existences in the West, as well as a need for action. In distinction from this, instead of trying to defend any position, my project wishes to unfold a different perspective on ways in which Islam and Middle Eastern culture have been (mis)represented.

8.2 Artists engaging minimal parts

Media artists who use units of digital media such as pixels, frames or repetition of units are Ryoji Ikeda, Jim Campbell, John F. Simon, and Titia Ex. Their approach towards engaging people in a bodily way with the digital realm has inspired my project. Works such as *Ambiguous Icon #1 (Running Falling)* (2000) by Jim Campbell, and *The Walk* (2012) by Titia Ex are videos streamed through a vast number of LED lights, which explore notions of time and movement within digital media. As an example, *The Walk* (2012) was created from 35,000 LED lights on a large spherical form. The large scale engages viewers into a bodily experience. The videos initially had to be turned into low resolution, to become aesthetically simplified. The simplified images move across the frame in a ghost-like manner, and the inability to fully identify with image content assisted viewers to bring their own readings to the work.

Works that can nevertheless be read via Islamic concepts, are *Analytical Studies IV: Blank Color Frames* (1976), by Paul Sharits, *Miraculous Beginnings and No, Illness Is Neither Here Nor There* (1993), by Walid Ra'ad, and "Abstractions" from *Visual Piano* (1972) by Doug Richardson. These works seem to be concerned with frame of moving image or its content (such as narrative and visual elements) as minimal parts, and can be read in terms of concepts, such as atomism (see Toufic, 1999). *Blank Color Frames* and *Miraculous*

Beginnings, for instance, can be seen as atomist movies that present frames of the digital media as minimal parts, fragmentary and disjointed. On the other hand, “Abstractions” (1972), which shows vector lines that keep on changing and creating new forms, is reminiscent of Islamic concepts connecting forms and lines to a point, which is the centre. Also, influenced by aesthetics of Persian Miniatures, is the film *The Color of Pomegranates* (1968) by Sergei Parajanov.

Every Icon (1997) by John F. Simon Jr, is an online work consisting of a 32 x 32 square pixel grid, which is based on images that get fed into the system and keeps changing over time. Another work is *E-volver Breeding Units* (Driessens & Verstappen, 2006) was developed for Research Labs of the LUMC in Leiden by a group of artists. It is a site-specific work that considers a metamorphosing unit and pixel in relation to natural elements, and is suggestive of an ongoing process and transformation at the level of codes. Takeshi Murata’s *Pink Dot* (2007) is also concerned with transformation and change at the level of video pixels. The minimal parts of this work are codes and pixels. His metamorphosing work has visual quality of process of becoming and constant change.

Furthermore, a politically driven work, *Pixelated Revolution* (2012), by Rabih Mroué, is a video performance that uses YouTube videos of the Syrian movement and compares their pixelated quality to the mainstream reporting of events. By zooming into the videos, Rabih seems to be searching for new information that is not apparent on the overall frame. His work does not directly work with the pixels, but brings the pixelated quality of low-resolution images into attention, as if hoping to find new discoveries that can give an idea of what happened during filming in that location at that time.

همه در جنبش و دایم در آرام
نه آغاز یکی پیدانه انجام
همه از ذات خود پیوسته آگاه
وز آسج راه برده تا به درگاه
به زیر پرده هرفزه پنهان
جمال جانفزای روی جانان

شعرا محمود بهتری

شاعر قرن بهشت چری قمری (۶۷۸-۷۲۰)